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ADDRESS.

THE OBLIGATION OF SECTION MEMBERS TO THE AMERICAN MEDICAL ASSOCIATION.

TOGETHER WITH A HISTORY OF THE SECTION ON LARYNGOLOGY AND OTOLOGY.

Chairman's Address delivered in the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY W. E. CASSELBERRY, M.D.

CHICAGO, ILL.

The honored custom of an address from the chair affords opportunities for suggestion looking to the welfare of our organization which would not find expression in any set paper or general discussion. I might with propriety and no little pride point to the expansion in recent years of the department of laryngology and otology and the influence wielded by this Section of the AMERICAN MEDICAL ASSOCIATION in the development of these sciences. I might dwell on the advantage of the fellowship and acquaintance which is engendered by our annual assemblies, the opportunities afforded to associate the personality of the author with the subject matter of his essay and to hear his defense if criticised in debate. But our present gathering is in the nature of a semi-centennial reunion and it is fitting, in fact it has been suggested by the Committee of Arrangements, that in each Section a brief historic sketch should be presented in recognition of the past and as a guide for the future. In the case of our own Section, one of the youngest, this history need not detain us long, and before proceeding therewith I would refer briefly to another topic: "The obligation of Section members to the ASSOCIATION as a whole," which seems equally appropriate at this fiftieth anniversary, as it partjcularly concerns the future welfare of the ASSOCIATION.

I have noticed on the part of Section members, a wide-spread disposition to refrain from participation in the proceedings of the general meetings. A few are overcome by modesty in the presence of men better versed in parliamentary tactics and perhaps, in years, their seniors; many are so engrossed in the strictly scientific aspects of medicine as to be more than willing to leave in other hands its material prosperity, while still others affect a disdain of what they are pleased to term "association politics." These sentiments are neither fair to the ASSOCIATION nor to yourselves, for as members of the general body you are not only responsible for, but bound by its action. The program reserves time for attendance and I would urge upon Section members the forethought to qualify in advance as voting delegates, to interest themselves in these meetings and to exercise the franchise. There, are discussed those larger and wider subjects relating to general medicine, surgery and sanitation, continued familiarity with which serves to broaden the mental trend, and there also are enacted resolutions pertaining to professional policy and ethical principles.

Some have decried the necessity for any "Code of Ethics" such as is formulated by the AMERICAN MEDICAL ASSOCIATION, but its observance in the past has maintained individuals in closer touch with the great professional body and facilitated on the whole the affiliation of State and county societies. But its purpose is unification, not discord, and while exemplary, in every article save possibly one, the unhappy fact remains that this single clause has served to estrange the members and sympathizers of a prominent New York medical organization, who honestly differ in opinion. I am not presuming to pass upon the propriety or impropriety of this clause, the point I urge being that in order to secure adjudication of this and other important questions by an actual or representative majority of the ASSOCIATION, the Section members should participate to the fullest extent in the proceedings of the general meetings. The very men who find their highest interests in the Sections, those most potent in promoting the satisfactory numerical and scientific status, which on this occasion we celebrate, are best qualified to judge of modern professional needs. On all important questions let them express a majority verdict and then let every member loyally acquiese.

Historical Sketch of the Section.—For several years prior to the formation of the present Section of Laryngology and Otology at Cincinnati in 1888, the upper respiratory tract had been represented in the Section of Ophthalmology, Otology and Laryngology, but under this composite arrangement the subject languished, for at the Chicago meeting in 1887, where your present chairman first acquired membership, only three papers pertaining to it were read. Meanwhile an agitation headed by Dr. W. H. Daly of Pittsburg, was in progress for the separation, not only of laryngology, but also of otology, from ophthalmology, and the coupling of the former together in accordance with natural affinities. There would have been no objection to the independence of laryngology, but one is curious to discover by what *finesse* the ophthalmologists were finally induced to part with otology in their organization, for at that time every ophthalmologist was also an otologist. I am indebted to Dr. Daly for the explanation. He says: "For some years I had labored to this end finding it quite impossible of accomplishment, but at Cincinnati, with the efficient aid of Dr. X. C. Scott of Cleveland, an ophthalmologist, or rather from his personal friendship for me, I got him to withdraw his opposition. Dr. Seiler was there and helped us much. At the election of officers there were fifteen or sixteen present. They thought I (Dr. Daly) should be the first president and I being very desirous of giving the new child a

good start in the world, was anxious to have Dr. Ingals for secretary, and I made no mistake."

In the official record of the fourth day of the general meeting at Cincinnati in 1888, is found this entry: "Dr. Wm. Porter of Missouri and others called up the amendment to the constitution offered by Dr. Carl Seiler in 1884 and now asked for by the Section of Ophthalmology. The action was agreed to and a new Section of Laryngology and Otology was created."

The first meeting under the new organization was held at Newport in 1889, where the auspiciousness of the occasion was noted in an excellent address from the Chair entitled, "Marking an Era in Laryngology." At that meeting Dr. J. H. Bryan of Washington gave promise of the fame he has since acquired in the treatment of affections of the collateral sinuses of the nose in a paper on "Abscess of the Antrum." Dr. J. O. Roe of Rochester was one of the first to note the importance of the lingual tonsil under the title "Glandular Hypertrophy at the Base of the Tongue," while Dr. Jonathan Wright indicated the pathologic trend of thought, which has since distinguished him, in a study of "Nasal Bacteria in Health." Drs. Lawrence Turnbull, J. N. Mackenzie, C. W. Richardson, W. Freudenthal and others were represented, altogether ten excellent papers being contributed at the initial meeting eight years ago. A glance at our present program shows growth; this number of ten has been multiplied by eight, certainly a satisfactory development.

In the following year, 1890, at Nashville, Dr. J. O. Roe presided as chairman and the late Dr. F. H. Potter as secretary. The meeting is memorable chiefly by reason of "positively the last appearance of the ancient controversy over the identity or duality of croup and diphtheria. Fortunately Klebs and Löffler, by bacteriologic studies have made it unnecessary to longer discuss that point. In 1891, at Washington, Dr. Chas. H. Burnett made an early report on the progress of aural surgery in an important direction entitled, "Excision of the Membrana Tympani, the Malleus and Incus as a means of Treatment in Otitis Media Catarrhalis Chronica and in Otitis Media Purulenta Chronica." Dr. Carl Seiler served as chairman and Dr. A. B. Thrasher as secretary. In the following year, 1892, at Detroit, Dr. Burnett presided and terminated his address with this excellent injunction: "Let us assemble here, impart to one another what we know and aid one another in the search for more truth, for in the words of Lessing, 'Not by the possession of truth, but by the search after it are the faculties of man enlarged, and in this alone consists his ever growing perfection.'"

The meeting at Milwaukee, in the year of the Columbian Exposition, under the leadership of Dr. E. L. Shurly as chairman and Dr. J. E. Boylan as secretary, is memorable for a faithful adherence to a lengthy scientific program, notwithstanding the distractions of the World's Fair in a neighboring city. Dr. Herman Knapp's paper on "Cases of Empyema of the Ethmoid Cells and Sphenoid Sinuses" was one of the earliest and most convincing contributions to the study of ethmoiditis, a phase of rhinology since recognized as of transcendent importance.

The assemblies at San Francisco in 1894, Baltimore in 1895, and Atlanta in 1896, over which Drs. E. F. Ingals, J. F. Fulton and G. V. Woolen, respectively presided as chairman, and J. F. Fulton, T. J. Gallagher and M. R. Ward as secretary, are all of such recent memory as to render special mention unnecessary, except to testify to the enthusiasm, earnestness and equally high standard of their contributions to the great fund of medical lore.

Gentlemen of the Section of Laryngology and Otology now assembled in ninth annual session, may I trust that this brief record of our past may serve as an inspiration for the future. I see before me many familiar faces, men to whom I extend sincere assurances of appreciation for the high honor which they have conferred upon me, but I see also others, men who are identifying themselves for the first time with our Section, and to them I extend the right hand of fellowship with our warmest welcome. In the search for more truth, let us profit liberally by each other's experience and endeavor to realize Emerson's conception of power: "A cultivated man, wise to know and bold to perform is the end to which nature works."

ORIGINAL ARTICLES.

THE SO-CALLED BLEEDING POLYP OF THE SEPTUM.

Presented in the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY NORVAL H. PIERCE, M.D.
CHICAGO, ILL.

I have been constrained to select this subject for my paper because in looking over the literature I have found but few instances of American writers having recorded cases of this pathologic condition. That the subject is important is proven by the circumstances surrounding my first case, the history of which is given below.

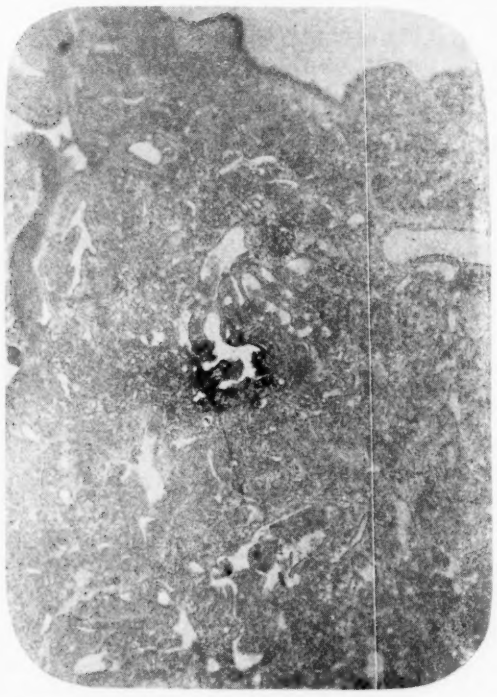
The patient was a male child, 6 years old, living in the southern part of Illinois. Six months before I saw him he had been operated on for a tumor of the septum, which had bled at frequent intervals for two months previously. The neoplasm was diagnosed sarcoma, was removed with a snare, and the toxins used. There had been the usual reactions and after two months the child was pronounced cured. But the bleeding having returned, the child was brought to me. On examination I found a tumor the size of a large pea projecting from the septum on the left side two mm. from the floor of the nose and about at the point where the triangular cartilage joins the vomer. The attachment was pedunculate. The color of the tumor was dark bluish, intermingled with red. It bled freely when touched with a probe. The tumor was removed with the cautery snare. The bleeding was unusually profuse, but was easily controlled by pressure. As I suspected the nature of the case I did not cauterize the base any further. The subsequent microscopic examination confirmed my diagnosis. It was what is known as a bleeding polyp of the septum or *fibroma polyposum fungoides teleangiectodes (septi narium)*.

The second patient was a maiden 15 years old, healthy and well nourished. She complained of discharge from the nose and recurrent hemorrhages which showed a tendency to correspond with her menstrual periods. On examination I found a tumor projecting into the left chamber from the septum a few millimeters above and a little anterior to the attachment of the former. It was the size of a French pea, markedly pedunculated and bled easily when touched with a probe. The tumor was removed, but not cauterized.

The patient disappeared from observation for a year. She then returned, with a history of frequent attacks of copious epistaxis. Indeed, in appearance she was quite anemic, and microscopic examination of the blood proved this to be a fact. Examination showed a recurrence of the tumor at the same place. It was again removed with a knife, and the base cauterized thoroughly with chromic acid. It did not recur, the epistaxis ceased and the patient immediately recovered from her anemia.

I present herewith microscopic slides from both of these cases. From the second I have a microphotograph.

We have then a subject that, viewed either from a theoretic or practical standpoint, is of especial rhinologic moment. We have not here a myxoma. This may be detected by its external appearance *in situ*. Again, we do not have the epistaxis from the myxoma. I believe Mackenzie's dictum to be right that "only in very rare cases is the septum the site of the affection." He evidently referred here to the myxomatous



or hyperplastic variety. In short, we have a pathologic manifestation. It always develops on the tissue covering the triangular cartilage, the same region which is the site of that strange process, the idiopathic perforating ulcer, the nature of which I believe to be still unrevealed.

Victor Lange in 1892 drew attention to the disease in a contribution to the *Wiener Med. Presse* (No. 52), and reported six cases.

In 1893, Otto Schadewaldt (Laryngologische gesellschaft zu Berlin) reported three cases.

In the same year Arthur Alexander reported three cases occurring in the practice of B. Fraenkel.

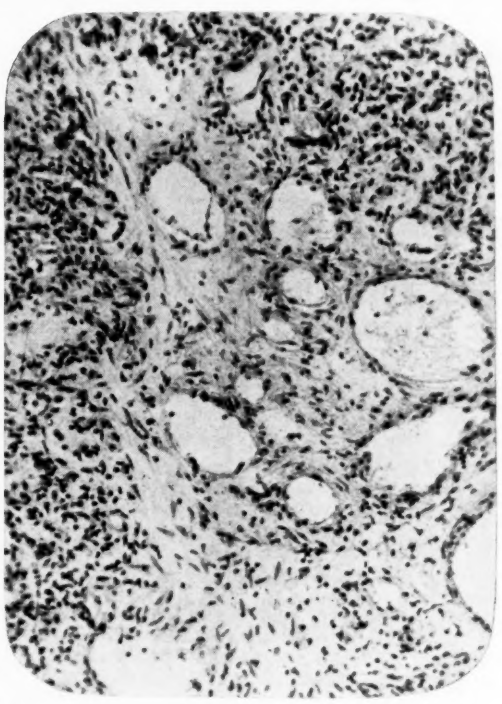
At the same meeting Max Scheier reported two cases and P. Heyman reported five cases.

With my two the total is twenty-one cases.

The great frequency with which these tumors were situated on the left side of the septum was remarked on by Lange; out of the six cases reported by him five were on the left side. And this peculiarity is still borne out by further experience. Out of the twenty-one cases, among which I include my own, in fourteen the growth occurred on the left side, in seven on the right side.

As to sex, we see that Schadewaldt tends to ascribe great importance to the influence of sex. Out of fifteen cases in which the sex was ascertained eleven were females and four males. So that it would appear that the growth occurs with much greater frequency in females than in males. That it occurs more frequently about puberty there can be no doubt. The second decade of life seems to be especially prone to it, eight cases occurring between the ages of 20 and 25. One of my cases, the 6 year old boy, is the youngest patient reported that I am aware of; 51 is the oldest.

The shape, surface, color and mode of attachment of the tumor are constant within narrow limits. It is round, is finely or coarsely granular, according to the age of the tumor, a dark bluish, purplish or reddish color, and is attached by means of a very short and, in comparison to the bulk of the tumor, slender



pedicle. To the unaided eye the large tumors may appear to have a broad base of attachment, so short is the pedicle, but the probe gives more accurate information. In size it may vary from that of a small lentil to a hazel nut.

The most constant symptom is recurrent hemorrhage. Whatever the size or age of the tumor, this is always present. The epistaxis may be great or slight. When the tumor reaches dimensions sufficient to block up the nasal chambers, symptoms of nasal dyspnea may arise.

The microscopic pathology is emphasized by the accompanying cuts.

Dr. G. Fuetterer examined the specimens for me and gives the following description:

Specimen 1. The surface is covered with polymorphous epithelium arranged in a single layer for the most part; in places, however, the epithelium is increased to several layers. Beneath this the ground substance commences, which viewed with a low power appears to be homogeneous throughout the whole tumor. Under a higher power, however, the fibrillary character is discerned. Equally distributed through this ground substance are large spindle-shaped cells, having large deeply stained nuclei, which have been cut in all directions, showing their

interwoven arrangement. The tumor is highly vascularized, and in the center are numerous cavernous spaces, lined with flat endothelial cells.

Specimen 2 shows nearly the same morphology, except that the blood in the cavernous spaces may be much more readily demonstrated.

Treatment: The tumor should always be removed. Victor Lange recommends the sharp spoon, but this method is liable to spoil your specimen. The snare, hot or cold, will serve very well; if the wire be thin and flexible hardly any difficulty may be experienced in extirpating it *in toto* with one attempt. Then too,

the hemorrhage is liable to be profuse, and before trying extirpation we should be prepared for this. A small quantity of ferripyrin in powder on a piece of cotton, held against the bleeding point, will cause the hemorrhage to cease instanter. The base should be well cauterized with chromic acid.

DISCUSSION.

DR. FREUDENTHAL—Dr. Pierce did not find any mention of similar cases in American literature. Dr. Roe and Dr. Cobb have published cases, and I also published two cases, two years ago. One of my cases was an angioma. Regarding treatment, I apply my nasal bag filled with ice, thus preventing severe hemorrhage. This I did with much success in one case, a few months ago.

DR. COBB—I think bleeding polyp of the septum is known under the head of angioma, and about eighteen cases are reported. At the Pan-American Congress I reported a case with the literature as far as I could learn it. In this case there was no recurrence, but I believe that angioma does sometimes degenerate into sarcoma.

DR. ROE—As a case of angioma of the nose which I reported three or four years ago has been mentioned in the discussion, I will simply say that the growth was exceedingly vascular and occupied the greater portion of the left nostril, extending about two-thirds toward the posterior portion. I first tried to remove the growth with a galvanic cautery snare, but the attempt was followed by such profuse hemorrhage as to necessitate the packing of the nose. I then tried the cold wire Jarvis snare and succeeded in removing the growth without hemorrhage. The patient was a man about 60 years old. After encircling the growth with the snare I instructed him how to turn the nut on the snare so as to cut through very slowly, and to stop the instant that any bleeding occurred, and when this ceased to turn the nut again. In this manner we consumed I think about two hours in the removal of the growth. After the removal I cauterized the base with chromic acid. After about six months there was a slight recurrence of the growth, which I removed in the same manner. I then lost sight of the patient, but about six months afterward learned that he died somewhat suddenly of anemia, characteristic of malignant growths. In this case the tumor started as a purely benign growth, as a microscopic examination of the portion first removed showed it to be a true angioma; while that which reappeared six months later showed sarcomatous elements, indicating that the growth had developed from a benign to a malignant one. We can not, however, positively say that the malignant elements may not have been in the deeper structures or in the base of the first growth, although at that time they were not apparent.

DR. PIERCE—My case was neither an angioma nor a sarcoma but a telangiectoma. I am opposed to the idea of a benign tumor degenerating into a malignant tumor.

SOME NOTES CONCERNING THE INFLUENCE OF SEXUAL EXCITEMENT UPON INTRA-NASAL DISEASE.

Presented to the Section on Laryngology and Otology, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

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When some certain offense against personal hygiene is generally recognized as one of several possible contributing causes of a disease, it would seem but reasonable that inquiry concerning it should become a matter of routine, and that in the event of its complicity, it should receive in the plan of treatment the degree of prominence it merits. It is a matter of common knowledge that sexual excitement, frequently repeated and prolonged, can occasion a great deal of vascular disturbance within the nose. With the production of such excitement through the olfactory sense, I am not now concerned. It is with the reverse of this phenomenon that this paper is to deal. A fugitive coryza quickly following upon the heels of a venereal debauch, is an instance of this, though it is a more than usually pronounced illustration of the effect of erotic excitement upon the nasal vasomotor mechanism. Lesser degrees of the same effect, however, are of much more frequent occurrence, I suspect, than many of us believe, and it is because of their frequency and the influence they exert in aggravating existing nasal disease and in hampering the action of local or general treatment directed to its cure, that that they become worthy of some special study.

Among the whole of our patients, it is in but a comparatively small number that we find sexual excitement an active cause of trouble. For the sake of convenience, they may be grouped within two fairly well defined classes. First we have a number of young people whose exposure to it is largely innocent—one might almost say legitimate. I mean those who are on the brink of wedlock, those who are availing themselves of the privileges which custom accords to the preliminary betrothal. Thackeray, in his "Shabby Genteel" story, refers to them as "those who are legally engaged in sighing, gazing into one another's eyes, hand-squeezing, kissing, and so forth (for with such outward signs I believe the passion of love is expressed)." This transition stage between celibacy and marriage is one of acknowledged risk. Long engagements have, for many excellent reasons, been denounced time and again, and the intimacy, the excess of tenderness which too commonly accompany them, are accountable for much suffering both immediate and remote. As long as "the flesh and the Devil" are mixed up with human love affairs, so long as the average man's love is so strongly sensual and so feebly spiritual, so long will protracted engagements be baneful.

It will be my endeavor to show by a single example how the nose and its diseases may be affected by the emotional turbulence of this pre-nuptial period. It is that of a young woman whom I first saw in October, 1893. She had had attacks of hay fever in each of the three preceding years and following the one of 1893 she had developed symptoms of asthma. The nasal examinations disclosed a pair of turgescent inferior turbinates, while those immediately above them were found greatly hypertrophied and along the

lower margin of the left a fringe of budding polyps. These latter were thoroughly eradicated with the curette and the bodies themselves reduced by a few repetitions of chromic acid cauterization. The erectile tissue of the lower turbinates regained its full contractile power under simple astringent medication, the asthmatic paroxysms ceased, and the next two years passed with no recurrence of the hay fever. The early months of last year, 1896, were spent in Florida, and when my patient returned to Philadelphia she was wearing an engagement ring. The man in the case was barely twenty-five, a veritable Romeo in the ardor of his passion, and blessed with enough health and virility for two ordinary men. The engagement had been of but slightly more than two months duration when the young woman reappeared in my office with a complaint of renewed nasal discomfort. The middle turbinates were again markedly hyperemic and the lower greatly engorged and prominent. Two or three weeks of the local treatment that had previously been successful in reducing these latter, made very little impression upon them now, and a threatened return in the early summer of the hay fever symptoms induced me to send for the young man and persuade him to assist me in my effort to relieve the sufferer, by becoming considerably less demonstrative of his affection for her. Parenthetically, it may be hinted that sexual intercourse even though carried to considerable excess, is less provocative of damage to the nasal erectile structures, than frequent and prolonged sexual excitement which remains ungratified. For so young a man this one received my remonstrance very sensibly, exercised more self-restraint than I had expected, and with the result that within a couple of weeks the engorged turbinates had shrunken almost to normal, the hyperemia of the middle ones was scarcely noticeable, and there was an entire subsidence of nasal symptoms. The inference is unmistakable. Nothing would be gained by the addition of other examples more or less reiterative of this one, but I may be pardoned for alluding to the tact that is essential in securing the co-operation of one or both of the young people without hurting their feelings or giving any offense. A bachelor is by no means necessarily a misogynist, and I would not be suspected of wishing to dim the brightness of "love's young dream," but if one of the dreamers chances to have any catarrhal condition of the upper air tract, a few judicious words counseling patience before and moderation after marriage may, if heeded, be preventive of a decided aggravation of such condition. I pass to the consideration of a second, the members of which, however, are far from being as innocent as those of whom I have just spoken. It is composed of the man-about-town, single or married, youthful or mature, the sybarite, the voluptuary, the libertine. Whatever we may choose to call him, he is a very numerous personage and though he may escape those specific diseases which so frequently roughen the way of this variety of transgressor, yet, sooner or later, his nose may become the humble agent of retributive justice. The man who enters a physician's office with a venereal disease anticipates the kind of questions he will be asked and is generally willing to answer them unreservedly, but he who comes to the rhinologist with merely a complaint of nasal respiration, of more or less rhinorrhea, and of, perhaps, some dull frontal headache, is apt to be astonished and, not unlikely, resentful, if he be closely questioned concerning his sexual morals. I do not know whether it is dread of the patient's displeasure or simply a want of appreciation of the frequency and potency of this genetic factor in the history of functional nasal disturbance, that leads to the omission of such inquiries, but will it be denied that they are the exception rather than the rule? The exercise of a little discrimination, of, perhaps, a little common sense, will protect a large proportion of our male patients from being subjected to an investigation of this nature, but in many others there will be fair reason to suspect moral laxity, and in these, there should be no hesitation in either confirming the suspicion or in taking the fault for granted and dealing with it frankly and vigorously.

Without having treated any great number of such cases, I have met with sufficient of them during the past few years to open my eyes to the fact that some early failures to effect in them decided and permanent improvement, were due to my failure to recognize and remove the principal cause of their annoying symptoms. A brief reference to the patient who first enlightened me on this point may be of interest.

He was a widower just turned 40, handsome, well-read, widely traveled; a man of most versatile cleverness, an excellent musician, something of an artist, and an occasional writer of very fair verse. All these merely personal details are distinctly relevant, because they are the very things which make a man *persona grata* to the other sex and which consequently expose him to greater temptations than his less attractive fellow. In such men, therefore, we may look much more confidently for easy virtue as an exciting cause of nasal trouble, than in those to whom nature has been less kind. This man recited a list of symptoms that was suggestive of enfeebled vasomotor control over the circulation of the pituitary membrane. There were brief intervals during which he was comparatively comfortable, but the greater part of the time he was seriously annoyed by nasal obstruction, by marked hypersecretion, by occasional paroxysms of sneezing, and by some dull frontal headache. An accompanying marginal blepharitis also testified to the intra-nasal irritation. His statement that he had already endured considerable treatment was amply confirmed by my rhinoscopic examination. His turbinates, both inferior and middle, presented an array of galvano-cautery cicatrices that reminded one of the scarred faces of the German duelists. This seemed to have been the favorite local treatment, but in addition, a fancied neurotic temperament had been assailed with many pills, a suspicion of gout had been threatened with drowning by gallons of lithia water, and, finally, some one had tapped both his antra through the inferior meati as a sort of forlorn hope. It was only a happy accident that saved me from the fate of my predecessors. A review of the treatment he had received yielded me little hope of finding anything of promise that had not already been tried. The end of a month of tentative local treatment, of regulation of diet, exercise, and some other matters of personal hygiene, found us but little beyond the point from which we had started. But just at this critical juncture when I could detect some slight signs of disappointment and failing confidence on the part of my patient, a bit of scandal came to my aid. It was the whisper of an intrigue in which my patient was playing the rôle of Juan. At our next interview this Lovelace admitted without any reluctance the habit-

ual looseness of his conduct with women. He made no attempt to conceal his amused incredulity when I charged this vice with being largely responsible for his nasal discomfort, but he agreed nevertheless to give virtue a month's trial. Not to rob this remedy of any possible credit, all other treatment was for the time suspended. Brief as it was, the period of probation proved more than sufficient to vindicate my faith in the prescription, and I was able to dismiss my patient with the assurance that his best safeguard against future return of this trouble, would be a rigid observance of the spirit as well as the letter of the Seventh Commandment. It is always my endeavor to be as sparing as possible in the use of drugs, but in cases such as this, where from long disuse, self-control has undergone a shameful enfeeblement, the bromids or any of the other anaphrodisiacs may be utilized to dull the vicious appetite, until sufficient will power is regained to completely conquer it.

DISCUSSION.

Dr. MACKENZIE—The relationship between over-indulgence of the sexual powers and morbid conditions of the throat, eye and ear has been recognized from a very early period. The fact is about as old as literature itself, but the pathologic relation between the nose and the reproductive apparatus is a matter of recent recognition. The first attempt to reduce the subject to a scientific basis was made by me some fifteen or sixteen years ago, and I subsequently published the result of my observations in the *American Journal of Medical Sciences* for April, 1884. Subsequent observations made, among others, by Arviset, Ischwell and Joal in France and by Peyer, Endries and Fliess in Germany have only served to sustain the positions taken in my original essay. Fliess has written a very elaborate monograph on the subject. The phenomena observed furnishes food for reflection not only for the physiologist and pathologist, but also for the biologist. In contemplating them, we are brought face to face with a most interesting enigma—a problem of life whose biologic significance it must be the task of the future to divine. Dr. Grayson's cases furnish additional corroborative evidence of a most important physiologic relationship.

DIFFICULT DEFECATION IN INFANTS.

Presented in the Section on Diseases of Children, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

BY THOS. CHAS. MARTIN, M.D.

Lecturer on Diseases of the Rectum in the Cleveland College of Physicians and Surgeons (Medical Department of the Ohio Wesleyan University), Surgeon for Diseases of the Rectum in the Cleveland General Hospital, Member of the American Medical Association, Member Ohio State Medical Society, Member Cleveland Medical Society, Member Cuyahoga County Medical Society, etc.

CLEVELAND, OHIO.

I should be unmindful of the history of human experience should I harbor the hope that the several affirmations set forth in this paper would be accepted without disagreement by a body of medical men. Remembering, however, that there is very little progress in knowledge except along lines where soundest casuists doubt, I propose for discussion the problem of difficult defecation in infants.

It is generally recognized that infants strain at stool.

The infant strains at stool because of the imperfect development of the anatomic features concerned in the mechanism of expulsion. These are as follows:

1. The infant's lower gut is muscularly deficient.
2. Its mobility within the abdomen is obstructive to defecation.
3. The rectal valves are obstructive.
4. The infant's anus not being sufficiently expansible is also obstructive.

The specimens of infant recta and sigmoid here shown are the first taken in my research on this subject, and are fairly illustrative of the facts upon which the foregoing declarations are based. The large specimens examined are those of adults and are typical.

The dried specimens shown in plates 3, 5, 7, 9 and 20, were prepared by flushing the intestine and then fixing the subject in the genu-acromial posture; the anus was then fixed open and melted paraffin was injected under about twelve ounces pressure. When hardened that portion of the gut occupied by the cast was removed[1]. Specimens shown in plates 11 and 12 were prepared by placing the subject in the dorsal decubitus and by opening the descending colon; the intestine below was then washed out and the colon perforation fixed at the abdominal wound, which save for this point was sewed up, the anus was tied up and as much melted peraffin as would enter under two pounds' pressure was forced into the gut; subsequently the sigmoid and rectum were removed as in the other cases. After immersion in alcohol the specimens were varnished.

The following are the memoranda of the autopsies made in this study:

Case 1.—Female, still-born; height 16 inches (40.64 cm.); circumference at anterior superior spinous process 7½ inches (19.05 cm.); anterior superior spinous process diameter 3 inches (7.62 cm.); ensiform to pubes 4 inches (10.16 cm.); transverse diameter pelvic outlet ¾ inch (1.90 cm.); peritoneum at last vertebra of coccyx. (Plate 3.)

Case 2.—Female, age 1 hour, height 17 inches (43.18 cm.); circumference at anterior superior spinous process 7½ inches (19.05 cm.); anterior superior spinous process diameter 2½ inches (6.35 cm.); ensiform to pubes 4 inches (10.16 cm.); transverse diameter pelvic outlet ½ inch (1.27 cm.); peritoneum at last vertebra of coccyx. (Plate 5.)

Case 3.—Male, age 1 month, height 23 inches (58.42 cm.); circumference at anterior superior spinous process 9 inches (22.86 cm.); anterior superior spinous process diameter 3½ inches (8.89 cm.); ensiform to pubes 4 inches (10.16 cm.); transverse diameter pelvic outlet ⅝ inch (1.59 cm.); peritoneum at last vertebra of coccyx.

Case 4.—Female, age 6 weeks, height 24 inches (60.96 cm.); circumference at anterior superior spinous process 10½ inches (26.67 cm.); anterior superior spinous process diameter 3 inches (7.62 cm.); ensiform to pubes 5½ inches (13.97 cm.); transverse diameter pelvic outlet ⅝ inch (1.59 cm.); peritoneum at last vertebra of coccyx. (Plate 9.)

Case 5.—Female, age 2 months, height 20 inches (50.80 cm.); circumference at anterior superior spinous process 8 inches (20.32 cm.); anterior superior spinous process diameter 3 inches (7.62 cm.); ensiform to pubes 3½ inches (8.89 cm.); transverse diameter pelvic outlet ¾ inch (1.90 cm.); peritoneum at last vertebra of coccyx. (Plate 20.)

Case 6.—Male, age 6 months, height 24 inches (60.96 cm.); circumference at anterior superior spinous process 10 inches (25.40 cm.); anterior superior spinous process diameter 4 inches (10.16 cm.); ensiform to pubes 5 inches (12.70 cm.); transverse diameter pelvic outlet ¾ inch (1.90 cm.); peritoneum at last sacral vertebra. (Plate 11.)

Case 7.—Male, age 6 months, height 24 inches (60.96 cm.); circumference at anterior superior spinous process 12 inches (30.48 cm.); anterior superior spinous process diameter 4 inches (10.16 cm.); ensiform to pubes 5 inches (12.70 cm.); transverse diameter pelvic outlet ¾ inch (1.90 cm.); peritoneum at first bone of coccyx. (Plate 12.)

Case 8.—Male, age 17 months, height 25 inches (63.50 cm.); circumference at anterior superior spinous process 12 inches (30.48 cm.); anterior superior spinous process diameter 4 inches (10.16 cm.); ensiform to pubes 6 inches (15.24 cm.); transverse diameter pelvic outlet 1 inch (2.54 cm.); peritoneum at last sacral vertebra. (Plate 7.)

Examination of the pictures of the dried specimens reveals that the wall of the infant rectum and sigmoid flexure is thin compared to that of the adult. (See plates 3, 5, 7, 9 and 20.) It is impossible to distin-

[1] For more particular description of the method of preparation see paper by the writer in Mathew's Quarterly Journal of Rectal and Gastro-intestinal Diseases, July, 1896.

FIG. 1.—The rectum of an adult; muscular bands are seen to be well developed. Filled in the procto-colonoscopic posture.

FIG. 2.—The rectum of an adult; muscular bands are seen to be well developed. Filled in procto-colonoscopy.

FIG. 3.—The rectum of an infant, stillborn; muscular coat undeveloped. Filled from below.

FIG. 4.—Side view of the specimen shown in FIG. 3. Antero-posterior angulation at third sacral vertebra.

FIG. 5.—Front view of the rectum of an infant aged one hour, autopsy while in a state of rigor mortis. The rectum being nearly perpendicular and the sigmoid almost tied in a knot. Filled from below.

FIG. 6.—Side view of the specimen shown in Fig. 5.

guish the longitudinal muscular bands which are so apparent in the gut of the adult. (See plates 1, 2, 17.) In the fresh state the mucous membrane constitutes a great part of the thickness of the gut wall of the infant, and the mucous membrane and muscular coats are more intimately adherent than in the adult. The infant gut is very deficient in muscular elements, therefore the intrinsic power of peristalsis can not be present in that degree necessary to it as a component factor of defecation.

The relations of the peritoneum to the rectum of the infant, also contribute to the difficulties of defeca-

FIG. 7.—Front view of the rectum of an infant aged one month; autopsy while in a state of rigor mortis. Filled from below. Two-thirds life size.

FIG. 8.—Side view of the specimen shown in FIG. 7.

FIG. 9.—Front view of the rectum of an infant aged six weeks. Filled from below.

FIG. 10.—Side view of the specimen shown in Fig. 9.

FIG. 11.—Front view of the rectum of an infant aged six months. Filled from above after disappearance of rigor mortis. Two-thirds life size.

FIG. 12.—Front view of the rectum of an infant aged six months. Filled from above after disappearance of rigor mortis.

tion, as also does the relatively great length of the descending colon and sigmoid flexure.

In the child the mesentery of the sigmoid flexure and rectum is disadvantageously long. In young children the length of the sigmoidal mesentery from its attachment to the parietes to its invagination of the lower loop of the sigmoid is often greater than the distance from the promontory of the sacrum to the distal bone of the coccyx. (See plates 13, 14.) From the sigmoido-rectal juncture to the beginning of the middle third of the rectum the mesentery rapidly shortens but apparently completely invests the upper third of the rectum. The middle and lower thirds are not so completely invested and present upon their

FIG. 13.—Side view of specimen shown in Fig. 12. The mesentery from sacrum and coccyx to the rectum is fairly well shown, but is shown shorter than in the fresh state, alcohol immersion, varnishing and drying having shrunken it. Observe also how nearly the peritoneum approaches to the anus.

FIG. 14.—The reverse of the view shown in Fig. 13.

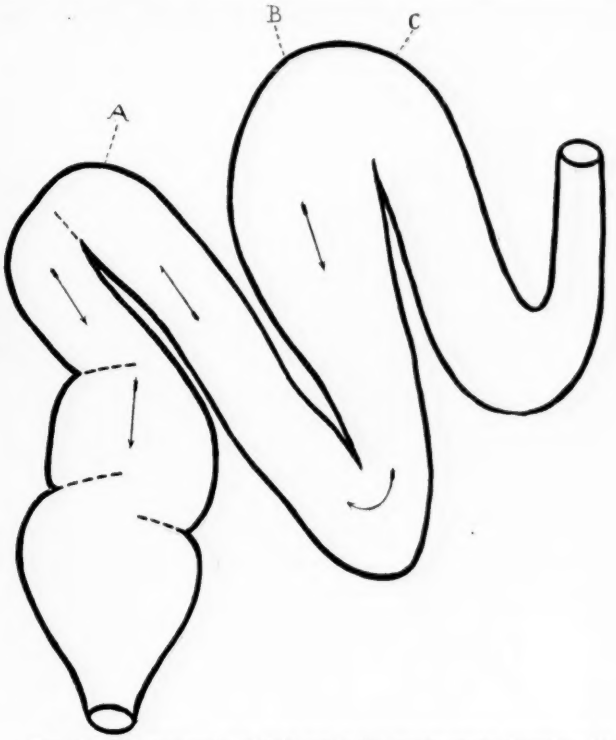

FIG. 15.—Diagrammatic of this gut in the empty state, therefore its flexions are not the same as those shown in the photographs. In the partly filled state, which is the condition about the time of defecation, the flexions and positions of these parts would be intermediate to those of the filled and empty conditions. (The dotted lines indicate positions of valves.)

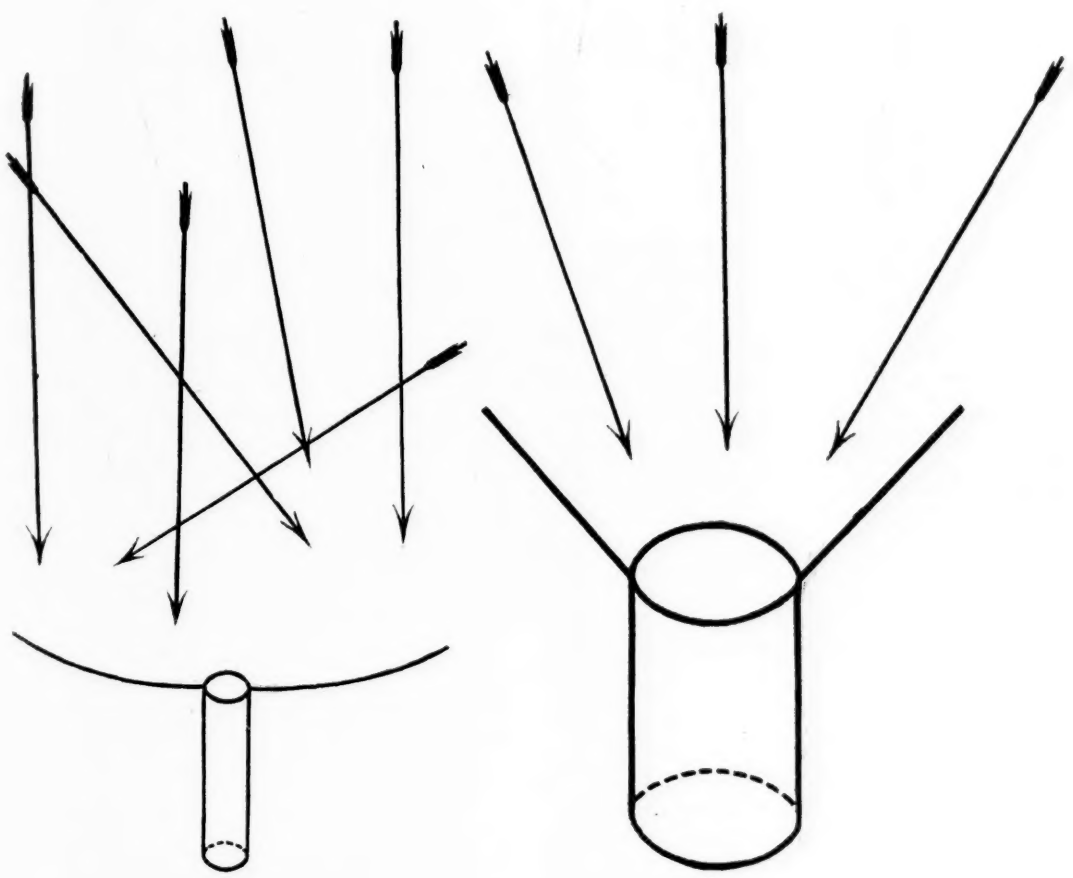

FIG. 16.—Diagrammatic, showing direction of forces and resistance in infant (A) and adult (B) and in defecation.

posterior parts a vertical lane bare of peritoneum, from the borders of which the peritoneum is reflected in lateral directions. This uncovered part of the gut is not applied directly to the sacrum and coccyx, and there is a space between which is occupied by loose connective tissue. The distance from the dorsal parietes to the gut is variable here, being from one-half to one-fourth of an inch (1.27 to .63 cm.) At the beginning of the middle third there is usually a gradual decrease in the length of the peritoneal band as it descends till it is one-eighth or possibly but one-sixteenth of an inch (.32 or .16 cm.) in length at the last bone of the coccyx; it rapidly shortens from this point to its termination. The parietal peritoneum descends over the ischial tuberosities and approaches nearly to the ental sphincter muscle. In the newly born the peritoneum is situated within one-fourth inch (.63 cm.) of the anal skin. (Observe plate 13.)

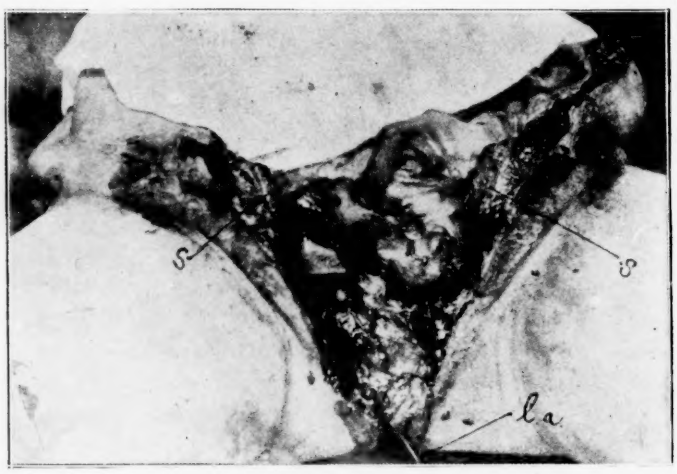

FIG. 17.—Photograph of a female cadaver showing, after laparo-symphyseotomy and removal of bladder, uterus and adnexa, the upper rectum and sigmoid packed with scybala; ss, symphysis pubis; l a, ligature at anus. The shorter mesentery of the adult, perhaps, keeps the greater portion of the sigmoid flexure above the ileo-pectineal line that it may not escape the auxiliary forces of defecation. It is noticed that the sigmoid is more than normally distended. Quarter life size.

The disproportionate great length of descending colon and mesentery of the infant obviously contributes to the possibility of angulation of the gut.

We see in the presence in the child of lax and long, or relatively long, peritoneal ligaments, and in the great length of the descending colon and the consequent probability of numerous acute angulations in the infant sigmoid and rectum, and in the mobility of these parts within the abdomen, the possibility of development of a perfect adult mechanism for defecation. The essential features of this development are two; first, the growth of prostate or uterus and their supports which fix the lower rectum; and second, the down-growth and out-growth of the pelvic bones and the consequent conversion of mesenteric peritoneum to parietal peritoneum, which shortens the adult mesentery and in great measure fixes the upper rectum; thus the entire rectum is steadied to facilitate discharge when the mechanism of defecation is set in operation.

The diagrammatic plate 15 does not exaggerate these obstructive elements. The collateral muscles which assist in the performance of the act of defecation force the feces in the direction of the lower angle in each flexion, and in that flexion whose onward, or to be paradoxical, whose downward direction for the time points upward (plate 15), the auxiliary pressure is in the direction opposite to that of peristalsis.

Inspection of the pictures of the dried specimens reveals the angulations referred to, which may be expected to be more numerous the more segmentary the gut's contents.

The third feature obstructive to defecation in infants is the rectal valve. It is a feature and factor which not only is not recognized, but is one whose very anatomic existence has been most ingeniously and persistently disputed. It was imperfectly described as an anatomic feature of the rectum by Mr. Houston in the Dublin Hospital Reports in 1830, and many years later Dr. Walter A. Otis (1887) more practically demonstrated its presence; neither of these gentlemen, however, attributed to it the characteristic element of an anatomic valve, although bestowing upon it its proper name. A number of investigators have discovered

FIG. 18.—Interior view of the left half of the rectum of an adult. Filled in the procto-colonoscopic posture, and distended only to the degree of normal atmospheric inflation. The anus is at the left of the picture. The valves are respectively two and one-half and seven inches (6.35 and 17.78 cm.) from the anus. One-half life size.

this normal contracture of the ampulla and have miscalled it by various names and given it widely varying descriptions; but a greater number still deny its existence and critically strive to dissolve away the imperfect evidence recorded in medical literature[2].

The pictures here shown of the dried specimens prove that in the infant the valve is such a matter of fact that its existence is no longer a matter for debate.

In each and every instance of more than three hundred persons examined by me these valves have been present, though in varying number and position in different subjects[3]. In most cases there are present three valves, in some there are four and in others there are but two.

I have marked that by some law of compensation

[2] See Monograph by the writer on New Evidence that the Rectal Valve is an Anatomical Fact, John P. Morton and Company, Louisville.
[3] See paper by the writer, Procto-colonoscopy, etc., Mathew's Quarterly Journal of Rectal and Gastro-intestinal Diseases, July, 1896.

the fewer the number of valves in a given subject the better are they developed.

The infant specimens shown indicate that the valves are particularly well developed at birth. The specimen shown in plate 20 is marked by two valves in the so-called ampullar region, situated so close together that the middle portion of the rectum presents its longest diameter at right angles to the main direction of the gut. Another valve may be seen at the juncture of the upper portion and the sigmoid flexure.

The specimen shown in plate 18 is that of an adult, and presents two valves on the left and one on the right which is not exhibited. As these valves usually span more than half the circumference of the rectum it will be understood that in specifying their situation I refer to their central part. In many cases they are situated on the anterior and posterior walls, and their free borders are always directed a little obliquely, contributing a spiral direction to the channel of the rectum. The depth of the valve from free border to the

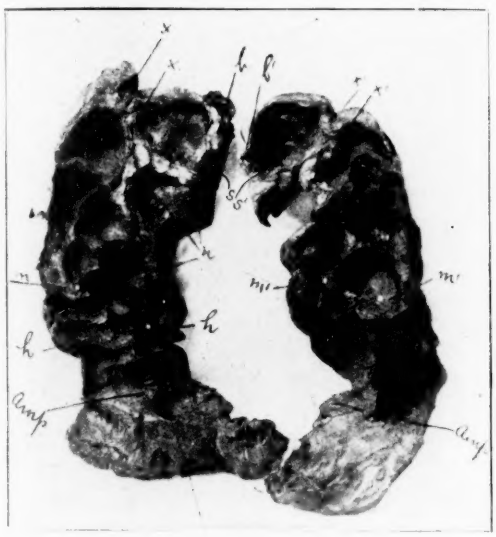

FIG. 19.—The rectum the same as is shown in Fig. 17, divided into anterior and posterior halves. Amp., anal end of ampulla; ss, sigmoido-rectal communication; xx, x'x', a semilunar valve dividing the middle and upper portions of the rectum; m, the beginning of a semilunar valve on the right of the posterior wall, and m'm', the same valve continued over the anterior wall; h h, a small valve not prominent because of the empty state of the gut at this point; b b', sigmoido rectal valve; n, a portion of mesentery. One-half life size.

border attached, is usually about one-third the transverse diameter of the inflated rectum, and the valve is about one inch (2.54 cm.) in depth at its deepest point. Inspection of the photograph of the adult specimen (shown in plate 19) which was taken from the subject without disturbing its scybalous contents, shows that the valve may be found in systole (*vide* xx, x'x) or diastole (*vide* m, m'm').

The microscopic section which is here shown was taken from the middle of the lower valve of the adult specimen. (Plate 18.) In the illustration (plate 18) it is shown magnified fifteen diameters. The thickened state of the mucous membrane over the free border of the valve fortifies that point against the increased friction which that part must necessarily bear. Beneath it is noticeable the heavy layer of fibrous tissue which gradually diminishes till it is lost at the valve base. Bundles of circular muscular fibers are seen in the middle of the valve. At its base are seen arteries and veins for its special nutrition. This structural arrangement makes this organ the typical anatomic valve.

Speaking with anatomic accuracy the rectum is divided into as many portions, plus one, as there are valves in the rectal ampulla; for example, the rectal ampulla may be said to begin just below the angle which marks the termination of the sigmoid flexure. If there be two valves below this point, that part of the rectum above the higher one of these two valves must be considered the upper or first portion of the rectum, that part below the higher valve and extending to the lower, the middle or second portion, and that part of the rectum below the lower valve and terminating at the levator ani may be called the lower or third portion. Should a rectum have three valves, or perhaps but one, not counting the one at the sigmoido-rectal juncture, that subject's rectum accordingly should be considered to have four or two portions. Therefore if we recognize the existence of these valves in the rectum the conventional division into upper, middle and lower thirds, which is employed by the anatomists should be abandoned.

FIG. 20.—The rectum and sigmoid of an infant aged two months. The photograph shows the interior of the anterior half. Portions of two valves are noticed at the middle part.

It must be readily seen that the presence in the rectum of such a structure as an anatomic valve would be essentially obstructive to the passage of feces.

In studying the physics of the rectum it is important that we recognize that the posterior wall from which the mesentery is reflected is less movable than other parts in the circumference, hence distention of the rectum not only tends to carry a given point of its wall away from a point opposite to it, but also carries it away from a given point cephalad or caudad. So it may be assumed that if the two valves situated at the ampullar middle of the cast-distended dried specimen (plate 20) are three-eighths of an inch (.95 cm.) separated, and that the two opposite walls of the rectum in the portion bounded by these valves are one inch (2.54 cm.) apart, that in a state of the gut's collapse or systole, the valves would be in contact, and thus afford a very definite obstruction to the descent of semi-solid feces.

The bony pelvic outlet in the infant is so contracted that the limits of anal expansion are such as to almost defeat the passage through it of other than fluid feces. It should be remembered that the normal average measurement from ischial tuberosity to ischial tuber-

osity in the adult is about four inches (10.16 cm.), and it is a fact proven by our observation that the average transverse diameter of the newly-born infant's pelvic outlet is but a little more than one-half inch (1.27 cm.), the pubo-coccygeal measurement is even less. Those who are familiar with instrumental divulsion of the adult anus have observed that two and a quarter inches (6.35 cm.) is the average limit of lateral separation of the anus, the remaining portion of

FIG. 21.—The interior view of the opposite posterior half of the rectum shown in Fig. 20, the two valves shown in Fig. 20 being continued toward each extremity of the ampulla. The sigmoid is out of focus.

the bony outlet being filled with the compressed soft tissues of the ischio rectal space. Therefore it may be estimated that nine-sixteenths at most, of the diameter of the pelvic outlet is the reasonable limit of expansibility of the anus for the passage of feces. Applying this calculation to the infant we find that if the ischial tuberosities are one-half inch (1.27 cm.) separated, that the anal expansibility is but five-six-

FIG. 22.—The paraffin cast removed from the gut pictured in Figs. 20 and 21.

teenths of an inch (.79 cm.), which is, as we know, the diameter of a No. twenty-two sound (French scale). Reference to the paraffin cast of the infant gut (plate 22) indicates that the average distensibility of the sigmoid flexure and rectal ampulla, in which the feces when firm are formed, is four or five times that of the anal expansibility; thus it is readily perceived that compared to the adult the juxtaposition of the ischial tuberosities in the infant supplies a most obstinate obstructive factor in defecation.

To collate in brief:

1. The muscular development of the adult rectum and lower sigmoid is plainly apparent in the plates here exhibited of the fresh specimens. A deficient muscularity is observed in the infant specimens.

2. The peritoneum of these parts in the adult is observed to be relatively, very considerably shorter than that in the infant[4].

3. The rectal valves appear to bear the same proportion to the gut in both adult and infant, but when we remember the difference in muscular development in the two the disproportionate resistence of the valve in the infant rectum is obvious.

4. The anal expansibility is remembered as adequate in the adult, and is seen to be deficient in the infant.

Co-relative to the facts just stated we must recognize that the adult rectum has resident within its own wall a powerful expulsive muscular mechanism; that the shortening of the mesentery holds the upper rectum

FIG. 23.—A semilunar valve taken from the specimen shown in Fig. 18, drawn as seen under a glass magnifying fifteen diameters. A, mucous membrane; B, fibrous tissue; C, bundles of circular muscular fibres; D, vein; E, artery; F, vein; G, artery; H, areolar and adipose tissue.

steady under the applied auxiliary forces; that the angulations of the sigmoid are not necessarily obstructive, though in a desirable measure retardative; that the forward incline of the lower sacrum and coccyx behind, and the development of the uterus and prostate and their inherent supports in front, provide the lower adult rectum with a firm funnel-like arrangement which guides the feces directly upon the os internum of the anus; that the valves divide the feces into portions to facilitate their separate successive discharge, and finally in sequence, that the physiologic descent[5] of the structures of the ischio-rectal space reduces this last resistence to the minimum in adult defecation.

Straining, the ruptures and prolapses, constipation,

[4] See Andrews' Surgery of the Rectum, table of peritoneal relations to adult rectum.

[5] Chadwick, Transactions American Gynecological Society, 1877.

retention of feces and the multitudinous consequent ills have demanded our patient inquisitive consideration; and this study forces the conclusion, I believe, that the individual's escape is ultimately assured by process of development, but that for the normally formed infant, the physician will find the solution of the problem of difficult defecation in the solution of the stool.

1077 Prospect Street.

MEDICINE AND THE STATE.

From a paper read before the Contemporary Club, Davenport, Iowa, Nov. 18, 1897.

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Just half a century has passed since, in 1847, Liverpool, and soon after, London—fearing a cholera invasion—appointed the first medical officers of health in Great Britain.[1] The next year, the dread scourge having made its appearance, a central board was established, and today, to quote Palmberg's *Public Health*: "Of all the countries of the civilized world none has a sanitary code so complete and so precise as England." That its provisions are respected by all and, as a rule, religiously observed, he rightly ascribes to the fact that they are the work of the people themselves and not mere administrative orders but little understood.

The sanitary administration of England is placed, in accordance with the public health act of 1875, in the hands of a government board acting together with boards locally established. The former consists of a president appointed by the crown, a parliamentary and a permanent secretary, together with various secretaries and high officials of state acting as advisory members. Its work is divided among the general departments of poor-law administration, the sanitary regulation of buildings, of factories, of sewers and streets, water supply, vaccination and other matters pertaining to public health,

Complete as is its present organization however, there is a movement now on foot to place it on a yet higher plane.[2] A motion will soon be made in Parliament, it is said, that "in the opinion of the House of Commons it is desirable that a department of public health be constituted and that the same be under the charge of a responsible minister having a seat in Parliament."

In this country the first step in state medicine was taken in 1849, when a commission was appointed by the governor of Massachusetts to prepare for a sanitary survey of that State.[3] But the Massachusetts State Board of Health, the first active State board to be formed in the Union, was not established until 1869. Meanwhile, in 1865, the State of Louisiana, in order the better to cope with an invasion of yellow fever, had appointed what was actually the first State board, though it possessed but very limited powers. At the present time all but ten of our fifty-one Federal divisions, including the District of Columbia, have each its more or less active board of health, all working together for the general welfare, while local boards under them, everywhere co-operate for the sanitation of cities and towns.[4] The ten exceptions are Alaska, Arizona and the Indian Territory, Georgia, Idaho, Montana, Oregon, Texas, Utah and Wyoming. Georgia formerly possessed a State Board, but allowed it to lapse for lack of an appropriation. Texas, though without a State Board, maintains a State Officer of Health.

But the United States has today no national board or department of health. The first step was indeed taken toward the nationalization of health in this country March 3, 1879, when an act of Congress to prevent the introduction of contagious or infectious diseases and to establish a national board of health was approved.[5] The board thus authorized, however, had but four years of active existence. It consisted of eleven members, seven appointed by the President and one each detailed from the Medical Department of the Army, the Medical Department of the Navy, the Marine-Hospital Service and the Department of Justice. It had no definite term of office and its duties, beyond gathering and disseminating information, were advisory merely. An act approved June 2 of the same year somewhat extended its powers but was limited to the four years succeeding, at the end of which period—Congress refusing to re-enact—the board ceased practically to exist and the act establishing it was at length formally repealed Feb. 15, 1893.

The place of a national board is now filled in part by the Marine-Hospital Service, a bureau of the Treasury Department, aided by the Bureau of Animal Industry of the Agricultural Department.

The Marine-Hospital Service was established in 1798, but placed on its present basis in 1871.[6] Its purpose was to care for the sick and disabled seamen of the merchant marine. In default of a national department of health, however, other duties and responsibilities have from time to time devolved upon it, giving it an anomalous position in the government, without definite scope or determinate power. The Revenue and Life-Saving Services depend upon it for the physical examination of their officers and men; it assists the Steamvessels Inspection Service by examining pilots for color-blindness; it is entrusted with the execution of the national quarantine laws, the management of the eleven national and the inspection of all local quarantine stations and with power to enforce inter-state quarantine regulations; it investigates reported cases of epidemic disease, collects and disseminates mortality statistics and sanitary information and makes investigations (bacteriologic, etc.) into the causes of disease; it examines immigrants for the existence of contagious diseases and has service in consul's offices at foreign ports to secure accuracy of bills of health given.[7]

The Bureau of Animal Industry investigates as to the existence of communicable diseases of stock, superintends measures for their extirpation and pursues investigations as to their nature and means of prevention. It has charge of the inspection of import and export cattle, vessels of export and stock quarantine stations, and supervises the inter-state movements of live stock and their slaughtered products.[8]

But when all is said, both bureaus remain and must remain subordinate organizations, subservient in part to other interests than those of health.

Another organization which has done and is doing much to promote and harmonize sanitary work in and between the States is the American Public Health Association, a body composed of the leading sanitarians of the United States, Canada and Mexico. But it is wholly without government authority or support.

The need for a sanitary head with which other nations could confer and co-operate authoritatively and promptly, which should co-ordinate, supplement and assist, but in no way supplant the several State boards, has long been felt; and various bills for estab-

lishing such a head, mostly crude and imperfect, have from time to time been introduced in Congress. In the closing hour of the last meeting of the AMERICAN MEDICAL ASSOCIATION a committee, appointed in 1891 to consider and report on this subject, brought in and recommended the most complete bill yet offered.[9] It was approved and they were instructed to present it before Congress at their discretion and to urge its adoption. The bill, as formulated, provides at much length for the establishment of a department of health which shall succeed to the present sanitary duties and powers of the Marine-Hospital Service, and of which the latter shall constitute a subordinate bureau, continuing its appropriate work. But by this bill the head of the new department is made a commissioner merely and not, as was the original intent of the ASSOCIATION, a secretary and one of the President's cabinet advisers.

Such is the existing status. Let us turn now to a consideration of some of the work waiting to be done by a department of health when it shall be established.

Our yellow fever epidemic of the past season, with its needless sacrifice of life and its prolonged interference with business interests—the latter costing the city of New Orleans alone, as estimated by the *New York Herald*, over $25,000,000[10]—forcibly illustrates the importance of greater national quarantine powers in dealing with incipient epidemics, which may well develop into national calamity.

Quarantine measures had their beginning in the twelfth century, when the Republic of Venice, after suffering repeated devastations by cholera, sought thus to protect itself against infected Asiatic ports,[11] and from that time they have held a first place in national sanitation. But to be effective, quarantine must be prompt and inclusive, must be broadly national in its scope. No local interest must have power to prevent or delay.

Another most important field, but partially occupied at present, is that of biologic research. Carried on to some extent, as we have seen, in and for the Bureau of Animal Industry and the Marine Hospital Service, it should be greatly extended for the investigation of human bacterial diseases.

Vital statistics, too, if collected under organized medical control, could be extended to cover much more fully than at present questions of disease distribution, with regional influence, etc., and above all be given a degree of accuracy and uniformity which, though essential to their working value, it is not now possible to attain. By present census methods the apparent death rate of the United States in 1890 was but 13.98 per 1000 of living population, whereas the actual rate, as estimated by the census commissioner himself, is about 18 per 1000, showing how unreliable are the data from which it was attained.

The registration States, in which alone there is any approach to accuracy of enumeration of births, marriages and deaths, comprise only about 4 per cent of the area, with one-fifth of the population, of the Union. Registration should be provided for in every State; there should be a trained census service permanently established, and the present too long decennial period should be cut in two. Commissioner Wright is seeking to effect these reforms; with a department of health they would be naturally attained.

In the care of the defective classes, and in measures to eventually reduce their numbers, the department could greatly aid—at least through co-ordinating—State and municipal effort.

There were in the United States, June 1, 1890, according to the eleventh census, 106,254 insane, 95,571 feeble-minded, 121,178 deaf and deaf mutes, 144,399 blind and 194,027 sick and disabled (in the registration States); in all 661,429, or over 1 per cent. of the entire population. This means a vast loss, both in productive power and in cost of care, a loss which ought to be greatly reduced. It must be allowed that from a purely economic standpoint, the care of defectives is a very pertinent affair of State.

We may not be prepared to agree with the Colorado philanthropist who advocates "the judicial taking-off" of the incurable insane, though such a procedure would seem to accord both with justice to the taxed producer and with the spirit of the golden rule; but it may surely be questioned if favoring the defective, to the ultimate lowering of racial vitality, is wise. Rather let us seek to increase productive strength and the expectancy of life through concerted measures to prevent disease and remove the causes of defect.

"The state of the future," says Jacobi (Therapeutics of Infancy and Childhood), "will have to see to it that epileptics are not placed in a position to raise progeny equally accursed. . . . The daughters of hemophilic families ought not to be allowed to marry. . . . Society and the state, with its organization of ignorance and disorder, are responsible for so much of deaf-mutism as is not pathologic. . . . The individual should be controlled by the community in the interest of the public health."[12]

Dr. Toulouse, a French writer on mental diseases, would have the existence of either epilepsy, cancer, syphilis, tuberculosis, or alcoholism bar legal marriage.[13] The Connecticut legislature has, I believe, passed an act prohibiting the marriage of epileptics, and a progressive member of the Texas legislature has formulated a bill requiring of each party to a proposed marriage contract, a certificate of physical soundness from some competent physician, together with the applicant's sworn statement of his freedom from any transmissible disease.

I quote these propositions, not as practicable of direct application, but as indications of a trend of earnest thought. Education in this direction is to be desired and furthered, but prohibitive marriage regulations, beyond those already in force as to consanguinity and incompetency (from whatever cause) to contract, would doubtless result in more harm than good by increasing the number of illegitimate births.

Another work of importance to the Nation, as well as to the several States, is the regulation of medical practice, fixing the qualifications of those to be entrusted with the citizen's life and health.

Under the Justinian code or civil law, and under the common law no barriers whatever were raised. Any one might practice either medicine or law, regardless of fitness or qualification (but subject always for injuries inflicted on others), the right of choosing an occupation being held to be inherent. But the tendency of legislation is to prescribe qualifications for practice, an exercise of the public power justified by regard for the welfare of the people, which is the supreme law. The right to practice (subject to reasonable qualifications) is neither a property right nor a vested right, but is a right, nevertheless, which can not be arbitrarily taken away. Such in substance is the opinion of Judge Pugh of Ohio, given in support of

the constitutionality of the Medical Practice Act of that State.[14]

All the States and Territories today, with the single exception of Alaska,[15] recognizing the need for restrictive legislation, have medical practice acts, more or less stringent in force, but they are far from uniform in requirement or in enforcement. Of them all none, I believe, is more efficient than the revised Iowa law as enacted last spring. Its just requirements now apply, virtually without exception, to all who profess to heal or cure in any way whatever, by medicine, appliance or method, and if enforced must prove effective against ignorance and pretense. The State in its requirements can, of course, take no account of school or belief, but of knowledge and fitness only. These, however, it must require of all alike, with neither exception nor favor.

The so-called osteopaths, in their recent concerted raid for exemption, were happily, in this State, unsuccessful; but Michigan acceded to their ridiculous demand, Missouri had already done so, and Illinois was only saved from a like disgrace by the veto of her governor. A National department co-operating with all the States would strengthen each against legislative corruption such as was undoubtedly brought to bear in this case.

A field of work closely related to regulation of practice, and one in which the influence of a department might be exerted to advantage, is the supervision of medical schools. The report of the commissioner of education for 1894–5 shows the existence of 151 medical schools in theUnion, or an average of more than three for each State, and more than twice the whole number of law schools existing, while the number of medical students (22,887) exceeds that of all law, theological and dental students combined.

There is, I believe, no legitimate demand for more than one-third this number of schools—doubtless a score, well equipped, would be all sufficient—and half the crowd of graduates annually set adrift would more than suffice for all actual needs.

There is reason to hope that the near future will witness a much to be desired reform in this direction, whether or not it shall be hastened by the establishment of a department of health. Increasing State requirements and cost of medical education, says the commissioner in effect, seem to indicate the approach of a time when medical schools, outside the great population centers, will be rare; also increasing endowments point toward the establishment of more worthy foundations, which will eventually do away with the horde of joint-stock, medical advertising institutions, whose only reason for being is to advance the selfish interests of their professors.

But the State, it would seem, might well interfere more directly to this end. Its right to determine the fitness of the physician is unquestioned. Should not the qualifications of the professor be equally guarded? The public interest suffers much by our present laxity in this regard. Harm results not alone through the graduation of innumerable incompetents, but also by the induced life-failure of many youths of good parts who, with little natural adaptation for the physician's life, are lured to a fatal expenditure of time and money, drawn into the clamorous portals of a profession from which they should rather have been kindly turned aside. In medicine especially is it true, as tersely expressed by an eminent scholar, that "we are constantly making the mistake of training men out of their capacities." The student should be met at the outset with careful tests, supplemented by kind and disinterested advice as to the choosing of his life career.

Another matter calling urgently for supervision is the manufacture of the various potent animal products to which the rapid growth of so-called serum-therapy is constantly giving rise. The many tuberculins, antitoxins, etc., in the market have each its dangerous as well as its beneficent possibilities. As an immunizing agent, representing the entire class, we may take vaccine production alone. If it is ever the duty of the State to require vaccination—and its protective power is overwhelmingly proven—it is at the same time unquestionably her duty to see to it that the virus employed is pure. At present this is not done. "In most States," says Dr. Lindsley, secretary of the Connecticut State Board of Health, "there is no legalized supervision."[16] Dr. Pittfield, reporting to the Pennsylvania State Board, after a careful examination of a large number of vaccine-producing establishments finds "great carelessness and negligence as to the purity of the product," with "no official supervision" existing.[17] And Dr. Abbott of the Massachusetts State Board, replying to an inquiry from the president of the Medico-Legal Congress of last year, meeting in New York, says: "Very little supervision is exercised in this country over the production of vaccine lymph," and expresses the opinion that its production "should be under the supervision of either State or National authorities."[18] This and other like products of incalculable sanitary importance, are widely distributed without regard to State lines, and the need for their National control, it would seem, must be plainly apparent; as also for control of the flood of patent and proprietary medicines, whose least evil is their immense money cost.

Of all sanitary measures requiring powers more extended than those of the several State boards, none is more important, perhaps, than the prevention of the pollution of streams. But here it may be objected, in the words of Dr. Billings, that: "The general Government can do little in the way of compulsory legislation which might interfere with the action of the several States to control their own sanitary affairs."[19] If this be true then greater power must be obtained through constitutional amendment, awaiting which the exercise of the right of eminent domain would find in so important a public need its most complete justification.

A subject to which I can but allude is that of National interest in endemic affections. In dealing with diseases so threatening to racial vitality as are leprosy, syphilis, and above all tuberculosis, there is need for the active aid of a department having National jurisdiction and powers. Consumption, according to Koch, is responsible for one death in seven the world over; one in eight and one-sixteenth by our own census of 1890; and owing to its principal methods of transmission, linked as they are with food-supply and means of transit, local measures are inadequate to its effective control. The danger from tuberculous meat and milk, and from the dissemination of tuberculous sputa, is now generally admitted, but in not more than one-third of the States, and in about the same proportion of the larger cities of the Union, are any practical measures being taken to meet it.[20] The movements of tuberculous cattle and their food products need Federal power for their prevention;

and Federal power must likewise be invoked for the general sanitation of sleeping cars and other interstate means of conveyance, perhaps also for the establishment of sanitaria especially equipped.

But enough. I have tried, first, to make clear the vital importance of sanitation to the State, and having glanced at its beginnings and growth, to point out some of the more urgent State needs in this direction. First of these is a sanitary head represented in the Nation's chief council, a governmental department analogous to the German "Reichsgesundheitsamt," or National Health Service, to the French "Directory of Public Hygiene," and to the English "Government Health Board," as it is to be. If, in presenting this need, I have assumed the role of advocate perhaps somewhat warmly, I must plead in extenuation my strong conviction of the importance of the end sought. But while advocating an increase of central power in the health interests of the people, I trust I shall not be misunderstood as favoring interference with individual State sanitation, or as sanctioning, even in the remotest degree, the dangerous policy of so-called paternalism, which would favor the interests of any *class* under the specious pretense of an ultimate benefit to all.

REFERENCES.

1 Larned: History for Ready Reference, Vol. iii, p. 2121 et seq., p. 2149.
2, 9, 10 Jour. Am. Med. Assoc., Sept. 11, 1897, p. 552; Oct. 9, 1897, p. 751; Oct. 23, 1897, p. 867; Sept. 4, 1897, p. 493.
3 Dr. Franklin Staples, Sec. Minn. State Board of Health: Article on State Medicine in the United States. Jour. Am. Med. Assoc., April 10, 1897, p. 685.
4 Report of the Am. Pub. Health Assoc., 1896.
5, 6, 7, 8 Report of the Supervising Surgeon-General of the Marine-Hospital Service, 1896, pp. 1036, 1040, 1038, 1037.
11 Dr. Henry Mitchell, Sec. New Jersey State Board of Health: Address on State Medicine and Hygiene, Jour. Am. Med. Assoc., July 17, 1897, p. 131.
12 Dr. A. Jacobi: Therapeutics of Infancy and Childhood, pp. 407, 136, 447, 136.
13 M. Toulouse: Jour. Am. Med. Assoc., Oct. 23, 1897, p. 755.
14 Judge Pugh: Jour. Am. Med. Assoc., Oct. 23, 1897, p. 871.
15 Dr. J. F. Kennedy, Sec. Iowa State Board of Health: Personal letter.
16, 17, 18 Clark Bell, LL.D.: Article on Compulsory Vaccination, Jour. Am. Med. Assoc., Jan. 9, 1897, pp. 50, 51, 53.
19 Dr. John S. Billings: Introduction to Hygiene and Public Health.
20 Dr. S. A. Knopf: Article on Preventive Means Against the Spread of Tuberculosis, Etc., Jour. Am. Med. Assoc., Oct. 30, 1897, p. 876.

ALCOHOLIC BEVERAGES.

Presented to the Section on Physiology and Dietetics, at the Forty-eighth Annual Meeting of the American Medical Association at Philadelphia, Pa., June 1-4, 1897.

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In this article I shall not touch upon the uses of alcoholic liquors as remedial agents in disease, but consider them solely in their effects upon alimentation. In so doing free use will be made of the researches and opinions of various writers, whose views differ widely, and an effort will be made to sustain a position removed from either extreme, in the belief that in this, as in most disputed matters, the charge of Apollo to his son Phaethon, on his undertaking to drive the chariot of the Sun, was wise, "*In medio tutissimus ibis.*"

Liebig, on chemical grounds, regarded alcohol as a respiratory constituent of food, contributing to the production of animal heat by oxydation. Tallemand, Perrin and Duroy, having detected alcohol in the urine, sweat and exhaled breath, concluded that it passes out of the body mostly without chemical change. But Parkes and Count Wollowicz, by means of the chromic-acid test, obtained the characteristic green reaction twenty-six days after the last ingestion of claret; and Dr. Dupré, after total abstinence of six weeks, found responses to the same test in the urine and breath, and also a substance yielding acetic acid on oxydation. The last, together with Anstie, Thudicum, Schulinus, Baudot and Pavy, agree in the conclusion that most of the alcohol taken into the system is oxydized and generates force. Were this not so, it could be largely recovered from the fluids excreted and exhaled from the body by distillation.

But there is evidence that mammals at least are not dependent upon art for a supply of alcohol, and that every one distills a certain quantity within his own body, which is mostly consumed; and this was the source of the alcohol found by Parkes, Count Wollowicz and Dupré in the breath and urine.

Prof. W. Hutson Ford, M.D., contributed to the *New York Medical Journal* of June, 1872, an article entitled "Normal Presence of Alcohol in the Blood," and based upon his researches in 1858 and 1859. The following table shows the results of thirty-two experiments by distillation of substances derived from oxen and dogs, some putrescent, in intervals varying from seventeen to ninety-six hours after death, others fresh, in intervals, from seven to seventy-seven minutes after death:

Yield of alcohol in 10,000 parts by weight from

1.	Capillary blood of the lungs; Calculation based on *carbon ingested*	0.5403
	" " " " *carbon exhaled*	0.5794
2.	Putrescent lung-tissue (mean of three experiments)	0.3819
3.	Fresh " " " " "	0.3076
4.	Putrescent thoracic blood (mean of five)	0.7625
5.	Fresh " " (mean)	0.0841
6.	Putrescent liver-tisssue	4.3138
7.	Fresh " " (mean of three)	0.0190

Dr. Ford obtained alcohol also from fresh pancreatic tissue of the ox sixty minutes after it was struck down, and from the blood of a dog ten minutes after it was drawn from the cephalic end of the jugular vein. The amount was too small for quantitative estimate, but it gave the characteristic reaction with chromic acid.

As observed, by far the largest yield of alcohol was from the putrescent liver, and much the smallest from fresh liver. This organ contains more sugar than any other tissue, but the change into alcohol begins here and is nearly or quite completed in the lungs, where oxydation is quickly performed, as shown by the small difference in yield between fresh and putrescent lung-tissue. It is presumed that about one-half of the lung-tissue consists of blood, and putrescent lung-tissue yielded about half as much alcohol as putrescent thoracic acid blood. Most of the thoracic blood had not yet reached the pulmonary capillaries, and was therefore little oxydized, and yielded much less alcohol than the capillary blood of the lungs. The yield corresponded to the time elapsed for the fermentative process.

It is probable that the sugar which is not converted into fat in the liver undergoes vinous fermentation, chiefly in the lungs, and as alcohol is consumed in the blood, generating heat and vital motion. The large yield of alcohol by putrescent liver-tissue represents the stored glycogen in the liver and the residual sugar carried forward by the hepatic vein during life. In diabetes mellitus we may suppose that there is some interference with this process of fermentation.

In a recent private letter to the writer, Prof. Ford assumes the constant presence in the animal economy of an enzyme, which transforms hepatic sugar into alcohol and CO_2. This action generates heat, just as it does in the fermenting tub of the beer and wine-maker, and heat and vital action are later produced

in the oxydation of the alcohol. Claude Bernard failed to take up Prof. Ford's line of study, from the supposition that the vinous fermentation is the work of the torula cervisiæ solely and from knowledge that this ferment does not exist in the animal economy. Prof. Ford's experiments show that liver-tissue will induce alcoholic fermentation in diabetic urine, and that decoction of liver-substance undergoes this process within a few hours at 100 degrees to 106 degrees F., but not at 60 degrees; hence he concludes that the liver furnishes the ferment. So far as I know, this line of investigation has not been pursued by others, but the work was done with utmost care by a competent expert, and the conclusions are entirely reasonable.

Pavy, in common with most observers, found that alcohol, moderately taken, increases both rapidity and fulness of the pulse. Very little effect is produced upon the temperature of a healthy person, or upon the elimination of nitrogen, by a small amount, according to Dr. Parkes; and he thinks it unlikely that a person can thereby peform more work on less food, though, by stimulating a failing heart, it might enable one to put forth an effort otherwise impossible.

Authorities differ about the comparative exhalation of CO_2, with and without ingestion of alcohol, and it is evident that there is no material difference. Competent and unprejudiced observers generally agree that a small quantity of fermented liquor or diluted spirit promotes the digestion of substantial food, especially of a fatty nature. Sweet wines and malt liquors promote nutrition, through the sugar and extractive matters which they contain, but are apt to be followed by indigestion, headache and gout, from the plethora induced.

The experiments of Dujardin-Baumetz on pigs showed that no pathologic changes follow the daily ingestion of ethylic alcohol at the rate of one grain to 1 kilogram of body-weight, when taken diluted at intervals. He and B. W. Richardson set the same limit to daily assimilation of alcohol by a healthy human adult, without disturbance to digestion or other injurious consequence. This, for a person weighing 150 pounds, would amount to 71. c. c. of absolute alcohol, or about 148 c. c. of brandy, whisky or rum, or 710 c. c. of claret—much more than a careful and intelligent person would choose to take. Even Anstie's limit of 59 c. c. daily of absolute alcohol would, in my judgment, be better divided by four, and then be taken largely diluted along with the two principal meals.

The effect of alcohol in large quantities is first excessive stimulation of the gastric capillaries and secreting follicles, followed soon by corresponding sedation, and by gastric catarrh, if often repeated. Strong spirits cause constriction by robbing the capillaries of water, diminish the flow of gastric juice, render the albuminoids less soluble, and seriously impair digestion. Taken in excess, alcohol can only be partially oxydized before reaching the liver, and in this organ the secreting cells are contracted by withdrawal of water from the capillaries, while the connective tissue is hypertrophied through stimulation. The eventual result is general contraction of the gland at expense of the secreting structure, and abdominal dropsy by pressure on the hepatic veins. Similar effects are produced upon the kidneys, but more slowly, as they are more distant from the stomach.

On the nervons system the effect of a small quantity of dilute alcohol is stimulation, with little or no reactive sedation. As the quantity is increased, especially if concentrated and taken on an empty stomach, the primary stimulation is shortened and the sedation magnified and prolonged. Intoxication may vary from maniacal delirium to profound stupor, and in either case the proper nutritive functions are proportionally disordered. Repeated excesses of this kind result in fatty degeneration of the nervous centers and softening of the arterial tunics.

There is no want of agreement among physiologists about the effects of excess in the use of alcoholic beverages, and no need of dilating upon this branch of the subject. It is now in order to notice the opinions of those who advocate total abstinence as the rule for all mankind.

Prof. N. S. Davis holds that both the carbonaceous and the nitrogenous elements of food contribute to tissue-growth and repair, and that animal heat results from molecular changes constantly taking place; while alcohol rather retards than promotes these processes, as shown by diminished body-temperature and elimination of CO_2. He asserts that alcohol has a greater affinity for the hemoglobin and serum of the blood than for oxygen, and consequently is not oxydized, so as to generate force in the forms of animal heat and muscular action. Undoubtedly the first demand of alcohol is for water, but this is not all. When taken in any reasonable quantity, it does not remain alcohol, nor in any case is it all eliminated from the body as such. Most of it is oxydized, and thereby its potential energy is developed into sensible force.

Dr. H. D. Didama of Syracuse, N. Y., asserts[1]: 1, Alcohol is not food; 2, does not promote digestion; 3, does cause gastric disturbances; 4, does not increase muscular strength nor promote physical or mental endurance. Like other teetotalers, he does not distinguish between moderation and excess. The above assertions are true in excess, but not in moderation suitable to the individual case. Excess in any instance is more than suffices for gentle stimulation of of the digestive and nutritive functions. Any degree of nervous derangement, whether mental excitement or torpor or muscular incoördination, means excess, from circulation of unchanged alcohol in the blood. He adduces the testimony of army and railway officers, Arctic explorers and trainers for athletic contests, that total abstainers bear extremes of heat and cold, sharp conflicts, long marches, exposure to storms and malarial infections better, and recover from fatigue and illness more speedily and thoroughly, than those who bounteously or sparingly partake of the flowing bowl. It is to be observed that he speaks of persons of full bodily vigor, amply supplied with good food, who do not need stimulation at all, and who could not be trusted to keep within the bounds of strict moderation. It is true that the rule of total abstinence is usually enforced in such cases, and the prudence of this course is admitted. On the other hand, there is evidence that a small amount of diluted alcohol will enable one to put forth increased mental and physical exertion for an emergency, to withstand cold with less suffering and recover from fatigue or prostration more quickly. Testimony to this effect is adduced and credited by the late Dr. W. B. Carpenter, in his excellent monograph on Alcoholic

1. Jour. Am. Med. Asso., Sept. 14, 1895.

Liquors. The difficulty is to keep within suitable limits. Most persons consider themselves qualified to judge for themselves in the use of alcohol, while they take medicines by the advice of physicians; and physicians themselves are no more prudent than the laity in their use of liquors. The explanation is, the appetite, rather than sound reason, is allowed to govern.

Dr. Charles H. Shepard[2] holds that the sense of well-being after taking alcohol is due to its benumbing influence; that its supposed building-up action is only an irritation from an effort of the system to get rid of the drug; that it exhausts vitality thereby more quickly, and therefore ought to be regarded as a poison. In support of the last conclusion he quotes Dr. Forel of the University of Zurich: "Alcohol, even when diluted, as in wine, beer and cider, is a poison which changes pathologically the tissues of the body and leads to fatty degeneration." Dr. Shepards adds: "Tea and coffee also belong to the same category of irritant drugs, which, by rousing the vital forces to get rid of the poison, provoke the action which is mistakenly supposed to be an added force, whereas the action is only one of self-preservation. Quinin is essentially nerve-poison and capable of producing a profound disturbance of the nervous centers." Dr. Shepard's consistency in adding tea, coffee and quinin to his list of poisons is incomplete without including the numerous condiments used in the preparation of food, with the exception of common salt, which alone can be regarded as a reconstructive constituent. They promote alimentation by rendering food more palatable and digestible; but they are injurious, when used to excess, as well as tea, coffee and alcohol. Shall they all be classed as poisons and be banished from our dietary?

Dr. I. N. Quimby thus discourses[3]: "What physician would be so bold or hazardous at this time, as to assert that the use of alcohol, even in a moderate way, did not have a tendency to produce various affections, such as congestion, ulceration and thickening of the gastric mucous membrane of the stomach, which did not in its turn produce indigestion, mal-nutrition and mal-assimilation, the result of which would have a tendency to produce disease of the kidneys, pernicious anemia, cirrhosis of the liver, fatty dengeneration of the heart, tubercular disease of the lungs, cerebro-spinal irritation, with softening and lessening of the resisting power of the red corpuscles of the blood, producing various affections of the respiratory, digestive and nervous systems? It is stated by Dr. Nordau, the famous writer and philosopher, who combines scientific knowledge and literary power and originality of thought, that there is going on a general degeneration of the race. And who is bold enough at this period of the world's history, to successfully deny or refute it?"

This alleged degeneracy of the race has been going on since Noah planted the vine and got drunk on its product, on coming out of the ark; yet, within the period of profane history, the span of human life has doubled and is increasing. France, Spain and Italy are producing annually, according to different estimates, fifteen to forty gallons of wine *per capita*, most of which is consumed at home, and this has continued for centuries; while the output of wine and beer in Austro-Hungary is about fifteen gallons annually *per capita*, and double this amount in the German empire. On an alcoholic basis, degeneracy in the latter progresses twice as fast as in the former. In these European countries children drink fermented liquors from the time they are weaned and follow the habit all their lives. Inasmuch as human life is steadily lengthening, popular education extending and military power growing, the present writer fails to see proofs of degeneracy.

Let us now view the alcohol question in the light of the doctrine of evolution. The most efficient factor in the elevation of all forms of life is survival of the fittest, from gradually acquired conformity with environment, whereby they grow to maturity and leave progeny endowed with increased faculty. At present the most destructive enemies of human life are the zymotic diseases, alcohol and narcotics. Proof abounds that the longer races have been subjected to these agencies, the less disastrous are the results. On the other hand, races newly exposed to them are immensely depopulated. Examples are found in the destruction of our aborigines by small-pox and alcohol. But the native population of Old and New Mexico, having been subjected to small-pox, with little or no modification by vaccination, for three and a half centuries, has acquired great tolerance and now suffers a low mortality. The races of tropical America have become so tolerant of yellow fever that total immunity is claimed for them by some writers, though on insufficient grounds. Syphilis has become much milder among the white populations of Europe and America during the last four centuries. The same is true of leprosy in India and China during unknown ages, in contrast with its recent invasion of the Hawaiian islands. The growing abuse of narcotics by the white races of Europe and America is contrasted by their moderate and almost harmless use in Hindostan, gained by centuries of habit. The general and intense craving for alcohol, so marked among the dark races of America, has mainly died out among those which have cultivated the vine for many centuries along the northern shores of the Mediterranean, by survival of progenitors who were temperate but not abstinent.

Even teetotalers allow that the worst effects of alcohol are produced by strong liquors, especially when taken on an empty stomach. Within the last twenty years the per capita consumption of malt liquors in our country has increased, while that of spirits has declined, and gross drunkenness has diminished. On the other hand, the consumption of spirits has greatly increased in France and that of wine diminished, since the ravages of vine-pests have seriously diminished the production of wine. Reasonable persons must agree that the changes are favorable to our country and the reverse to France. Another notable observation is the increasing use of such anesthetics as chloral, cocain, opium and its derivatives and the various coal-tar derivatives, especially where the traffic in alcoholic liquors has been most opposed by public opinion and legislation. There is a natural, and for many an irresistible, craving for some form of anesthetic, and it is reasonable to allow use of the least injurious, under suitable and practicable restrictions. Evidence abounds that the use of light red wines at the table is least injurious to average persons, and positively beneficial to most of the aged and debilitated, when taken in such moderation as to produce no appreciable effect upon the nervous system by excitement or stupor. Such use of alcohol would forestall

2. Id., Sept. 28, 1895. 3. Id.

resort to anesthetic drugs, which seriously impair nutrition and ability for industrial pursuits.

For such persons as can not restrict themselves to moderate limits, who habitually use enough to effect perceptibly the nervous system, or who indulge in debaucheries which unfit them for business, there is no safety but in total abstinence. Likewise there are individuals who can not use tobacco, tea or coffee in moderation, and others who are extremely susceptible to their poisonous effects; and these too must abstain. It would be wrong to condemn all to deprivation because a few indulge to their detriment, and so far legislation has not been invoked to repress their use. It is proper to distinguish between excess in these and excess in alcoholic beverages, because the latter is more prevalent and harmful.

In the writer's judgment, it would be wise for government to put upon the manufacture of spirits used as a beverage the heaviest excise compatible with successful collection, a moderate excise on fermented liquors derived from grain and hops, and to encourage the production of light table wines by leaving them free. Moreover, it is desirable to diminish the number of tippling houses, and this is most effectually accomplished by imposing so high a license-tax as to suppress nearly all. Licensed dealers then, instead of combining to resist the law, would unite in its support, in order to prevent encroachment on their dearly bought privilege. In order to discriminate between bar-room and home consumption, it would be advisable to impose a lower license for sale of fermented liquors than that of spirits, and lowest on sales of one gallon and upward of all liquors. This could be effected by separate licenses for fermented liquors, and for liquors in bulk and by the glass for consumption on the spot.

It is undeniable that the liquor traffic is responsible for much of the crime and poverty which afflict society and much of the disease which shortens human life. The question of its control is one of the most serious and difficult problems which confront moralists and legislators. In the opinion of the writer, it should be dealt with by practicable methods, in the spirit of truth. It is untrue that alcohol is, on all occasions, under all circumstances, at all times, in all quantities, a poison, and therefore harmful. It is no more true of alcohol than it is of all the condiments used in our daily food, of tobacco, of most of the medicines that physicians prescribe. They all have their uses, and the harm comes from their abuse. Except as a medicine, alcohol should only be taken largely diluted, along with food or soon after eating, when it aids digestion and forms an addition to ordinary food. Most of our people in their usual health do not need it and are better off without it. Undue plethora is the least harmful of its effects on those who have plenty of wholesome food and stomachs suited thereto. Many who do not need alcoholic beverages, but are content to use them in moderation, readily become tolerant, as they do of tobacco, tea and coffee. Such are many millions of consumers of light wines and beer in Europe, and there is the strongest probability that, if deprived of their customary beverages, they would resort to substitutes more energetic and positively harmful, as is actually the case recently in France. Witness also the increased use of narcotic and anesthetic drugs in this country, under stringent repression of the liquor traffic.

The subject has been clouded by fallacies to such degree that most people fail to distinguish between temperance and total abstinence, moderation and intemperance. The utterances of those engaged in the crusade against alcohol are of the most intemperate character, abounding in loose statements and bad reasoning. The preaching of brimstone and hell-fire is rapidly dying out in our pulpits, because intelligent persons discredit the doctrine and are disgusted by it; and now, in the clear sunset of the nineteenth century, it is an anachronism to invent false alarms, which do not frighten people of average sense.

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HUMAN FOOD LAWS.

Presented to the Section on Physiology and Dietetics at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, June 1–4, 1897.

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"The comfort, energy, usefulness and moral character of a man depend largely upon his digestion, and this in turn depends largely upon what it has to act upon, viz., food." (Wm. Pepper.)

In view of this it is strange how little interest man has taken in the regulation of the quality of that food. First and last, in one place or another, mankind has eaten nearly everything which by mastication could be made small enough to pass down his throat. But the great mass of humanity always has and does still subsist upon a few abundant, nutritious and easily obtainable foods. Such are found in fruits, grains and vegetables. Different peoples and races have made use of quite different kinds of foods. But with the more intimate knowledge of others' tastes, each of the so-called civilized nations has adopted certain of the customs and habits of others, and among them the foods. Thus our dietary has rapidly increased. Not until recent years has there been any careful scientific study of man's needs, and still more recent have been the attempts to really satisfy those needs. There can be no doubt that too much food does fully as much harm in the world as too little, and too much of any one kind far more than either. Good evidence of the advantage derived from a regular ration of food arranged on a scientific basis is seen in the uniform good health of well managed modern armies and large institutions. Careful analyses of physiologists and chemists show just how many grams of proteids, fats, carbohydrates, salts and water are needed to maintain the average human life in its best equilibrium. We are becoming more and more interested in these questions, and are quietly making practical application of the lessons learned in the laboratories of the scientists.

But it may well be questioned whether mankind as a whole, and particularly that portion of it dwelling in these United States, are by any means ready to accept rules as to what and when they shall eat. Like animals or plants they insist on eating and drinking whatever they like or is most convenient.

With regard to the quality, however, there is really appearing considerable interest. No man likes to be cheated. Prove to him that he is being defrauded in the food he buys and he will make some attempt to check the fraud. If you can further prove that he is being injured by that food, another and stronger motive for interest is aroused.

The adulteration of food is of very ancient origin, and has from time to time been sharply checked. But

such action has until recently always been spasmodic. The object of adulteration is to make money. The dilution must, therefore, be made with some material cheaper than the food itself, not readily detected by sight, taste, smell or touch, and if practicable not sufficiently harmful to cause rapid poisoning and consequent detection. The mere fact that the food furnishes insufficient nutrition or is slowly or indirectly harmful, does not at all trouble the rascally manufacturer or dealer.

In the matter of systematically stopping these frauds some European countries have been much in advance of the United States. Thus England, France and Germany had good laws before any serious agitation had begun on this side of the Atlantic. It would be interesting to compare these European methods with the best American methods, but time forbids. As matters of history, however, we may note that England passed extensive food laws in 1860, 1874 and 1879.

France has had quite definite laws for many years, gradually, without any great movement, reaching their present form.

Germany, too, has long had good laws in this matter, which were put in their present form in 1879.

At that time 231,478 analyses were made and only 3508 or 1.5 per cent. were found adulterated. In view of the fact that over 150,000 of these samples were milk, this is remarkable.

About twenty years ago Americans began to seriously think on the matter. A great many books and magazine articles were published and the public interest gradually aroused. Of course the medical profession led in the matter. Investigation showed that very many articles of food were adulterated to some extent. The United States Commissioner estimated this adulteration at nearer 15 than 5 per cent. When we consider that the value of the food consumed was $4,500,000,000, the enormity of the crime is apparent.

Most of the States have laws prohibiting adulteration in general, but the laws are not enforced and are not comprehensive enough. In 1879 careful study was begun on the subject by a committee consisting of the Vice-President of the National Board of Health and one representative each from New York, New Jersey and Massachusetts. These three States later adopted the recommendations of this committee. Ohio and Connecticut have since passed comprehensive laws in the matter and the results have been most satisfactory.

Since the United States' Special Agent, Alexander J. Wedderburn, says that "Massachusetts has very carefully investigated the question of food adulterations, and has probably the fullest and most complete laws upon the subject in this country," it will be helpful to consider the progress of the movement in that State.

When in 1870 the State board of health was established there were in existence a few special laws in regard to certain adulterations. There was no general law and no specially deputed persons for the enforcement of the special laws.

The first duty was the examination of the supply of fresh beef furnished to the city of Boston. Their report led to the enactment of laws which have served as models to other States. Then they found that 85 per cent. of the milk sold in Boston was adulterated—a great contrast to Germany. Other foods were almost as bad.

As a result of their continued reports to the legislature the general food law was enacted in 1882. A large number of examinations were made and numerous prosecutions instituted. What was more to the point many convictions were secured. Still in 1886 60 per cent. of the foods examined showed adulteration. Two years later, however, these were reduced to 36 per cent. and there has been steady improvement ever since. The report for 1894 showed 6874 samples examined by the State analysts of which 2190 were not up to the standard, a percentage of 31.91 of adulterations. This does not really show the amount of adulteration but only the per cent. in selected articles. The greater the care taken in the selection, the higher will be the per cent. found. The same improvement could be shown in New York, New Jersey, Ohio and Connecticut. But it will be more profitable perhaps to consider briefly these laws and how they have been and may be applied.

According to the Massachusetts law a food is deemed adulterated: "1, if any substance or substances have been mixed with it so as to reduce or lower or injuriously affect its quality or strength; 2, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; 3, if any valuable constituent has been wholly or in part abstracted from it; 4, if it is an imitation of, or is sold under the name of another article; 5, if it consists wholly or in part of a decomposed, putrid, or rotten animal or vegetable substance, whether manufactured or not, or in the case of milk if it is the product of a diseased animal; 6, if it is colored, coated, polished or powdered whereby damage is concealed, or if it is made to appear better or of greater value than it really is; 7, if it contains any added poisonous ingredient or any ingredient which may render it injurious to the health of a person consuming it."

The members of the State Board of Health were made the agents of the Commonwealth to secure enforcement of this law and were given at first $3000, then $5000, next $10,000 and finally $11,500 to expend in so doing. Inspectors and analysts were appointed. Vigorous action has characterized the board from the outset. From 1883 to 1895 there were 1131 complaints made in court; and among these 626 were for adulterating milk. One thousand and twenty-eight convictions have been secured and fines amounting to over $25,000 imposed.

By provision in the statute three-fifths of the appropriation must be expended "for the enforcement of the laws against the adulteration of milk and milk products." It was found that the milk was occasionally colored by annatto, caramel or flour, but that the chief adulteration came by the addition of water or the removal of cream. It is stated on good authority that to the 120,000,000 gallons of milk brought into New York City in 1883 40,000,000 gallons of water were added.

In English cities the percentage of milk samples found to be adulterated is almost the same as in the United States. Thus 1633 out of 12,151 were found to be adulterated. France, however, does much better, there being only 279 frauds detected in 4315 samples. Doubtless this is due in part to the low standard.

This suggests a difficulty which has confronted the authorities from the first, viz., the need of a fair standard. After much study of averages it was fixed in Massachusetts at 13 per cent. of solids. New York and New Jersey require 12 per cent. of solids, of which 3 per cent. must be fats. England and France and

Holland only require 11.5 per cent. of solids, of which 2.5 per cent. must be fat. Ohio's requirement is the same as New York's. Apparently it is a little more fair than the 13 per cent. of Massachusetts. Evidence of this is seen in the fact that in the latter State of 3549 samples examined in 1894, 1597 did not contain 13 but did contain 12 per cent. The enforcement of the law in Ohio is entrusted to the Dairy and Food Commissioner, and last year he was allowed over $50,000 to expend. As a result he is able to report: "greater attention paid by dealers to the quality of of goods sold by them than has ever been done before. Immense amounts of bad goods have been shipped out of the State and manufacturers from all parts of the country are anxious to ascertain the requirements of law previous to sending goods into the State. In many cases manufacturers have informed me that they find it is necessary to put up one class of goods for Ohio and cheaper goods to be sent into States where laws were not enforced." He further declares "more work has been done in the prevention of fraud in the sale of food and drug products, and in the preservation of the public health thereby in the State of Ohio during the past ten years than in all the other States of the Union combined." All honor to Ohio! But shame on the other States!

But there are food laws which are manifestly unfair. Like many portions of our tariff laws they benefit only a few or a class.

About twenty years ago a French scientist named Mége-Mouriéz noticed that cows continued to give milk which contained cream, even though they were cut off from all fat-producing foods. Manifestly some of their reserve supply of fat must be transferred to the milk. He began to experiment with these fats and found that by proper chemic and mechanical means he could produce a compound closely resembling chemically and macroscopically the familiar butter. Physiologists tested it and found that for all practical purposes oleomargarine was as useful a food as butter. As it could be made for about one quarter the cost of butter, the discovery was hailed as a great boon for the poor. Suddenly the farmer awoke to the situation. He was losing the market for his butter. Legislatures were appealed to. A very large proportion of the legislators were farmers themselves. Countless stories, most of them false, were concocted telling of the foul constituents and dreadful methods used in its manufacture. The result is a series of laws which are practically prohibitory and the loss to mankind of a valuable food. As physicians we should do our utmost to promote a reasonable regulation of the manufacture of such foods; for we know how sadly they are missed in the dietary of the poor.

Another article of food which was found to be frequently adulterated was cheese. The milk fats were left out by skimming the milk, and other fats, lard most commonly, worked in. In the detection of these frauds the microscope has been very valuable. Numerous laws for the protection of the public have been passed in the different States, which in some respects resemble the oleomargarine laws. The fight has not been as bitter, however, nor the laws as unfair. Thus in New York, Wisconsin and Minnesota, makers of "full cream cheese" are allowed to use an official stamp. To use this stamp on any cheese not "full cream" is to render one self liable to severe penalties. Ohio and Colorado go a step further and require the "skimmed" and "imitation" or "filled" cheeses to be so stamped with an official stamp several inches square. The other States have not troubled themselves very much in this matter.

Flour is only rarely adulterated, for as we noted at the outset, adulteration is practiced only to make money. Sugar is another great staple food which is now only rarely adulterated. Owing to the ease with which the taste and color could be imitated, vinegar has been much manufactured. Some States, Massachusetts for instance, have therefore established by law the percentage of apple substance which vinegar must contain as well as the per cent. of acetic acid, viz., 4½ per cent. Honey and maple syrup are two common articles of food which need constant inspection; and there are a multitude of others. Let me quote a few of those frauds detected by the Ohio inspectors in 1896 and punished by Ohio's laws; candy containing the poison anilin black; tomato catsup containing salicylic acid; canned peas colored by oxid of copper, oxid of lead and oxid of tin; black pepper containing buckwheat, roasted cocoanut shells and cayenne pepper; molasses adulterated with commercial glucose; buckwheat flour adulterated with wheat flour; cloves deprived of oil; green peas colored with the salts of copper; cider containing salicylic acid; raspberry jelly made of ether, alcohol and anilin red; current jelly composed of glucose syrup and salicylic acid; coffee adulterated with chicory, peas, corn and wheat bran. Truly the American is ingenious!

These facts are not secrets. Why, then, are there not more States with comprehensive laws? Why do not the States with good laws allow sufficient money to its agents to enable them to do good work?

More than seven billions of our money are invested annually in our food and drug product. Millions on millions of this finds its way to the dealer in adulterated products. And in these days it is the money power which secures legislation. Not always, however, and not necessarily. As physicians with a wide influence, let us agitate the matter, stir up and instruct public opinion, and it may not be many years before great results shall be attained both for the health and wealth of our people.

BIBLIOGRAPHY.

In Reference Handbook of Medical Sciences, "Food and Drug Inspection," Samuel W. Abbot; "Adulteration of Food," R. H. Chittenden; "Legislation Concerning Adulteration of Food and Drugs," Henry A. Riley.
Reports of Massachusetts Board of Health, 1879–1896.
Report of Ohio Dairy and Food Commissioner, 1895 and 1896; "Food Adulteration and its Detection," Jesse P. Battershall; "Extent and Character of Food Adulterations," Alexander J. Wedderburn.

DIET IN THE CHRONIC CATARRHS OF THE GASTRO-INTESTINAL TRACT.

Presented to the Section on Physiology and Dietetics, at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, June 1-4, 1897.

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In treating of diet in the chronic catarrhal inflammations of the stomach and intestines it is not intended to limit the discussion to those cases only which are usually classed as such. Our present exact methods show that chronic gastric catarrh in its earlier stages is rarely accompanied by nausea or vomiting and not always by pain in the stomach itself; also that cases of gastritis grave enough to have seriously impaired the health may be characterized by an increase rather than by a diminution of the appetite.

Again the same methods prove the frequent coex-

istence of catarrhal disease in the small intestines and persistent constipation or constipation alternating with diarrhea when the disease has become more advanced. Obstinate chronic diarrhea points usually to an aggravated catarrhal inflammation of the intestinal mucous membrane complicated in many cases with ulceration.

A proper regulation of the diet is important in most derangements of health—perhaps in all. In those involving the digestive system it is peculiarly important. The science of dietetics presupposes that the appetite is not a safe guide in all cases and experience abundantly confirms this view. In the matter of quantity alone there are numerous patients who habitually eat too much and many more who, in consequence usually of a faulty secretion of the digestive glands, eat too little. It can not be too strongly emphasized, however, that patients suffering with chronic catarrhal inflammation of the digestive tube require a strongly nourishing diet. Their nutrition is apt to be low and commonly shows a strong tendency to sink lower. A portion of their food fails of its intended purpose by undergoing fermentation or putrefaction instead of digestion and assimilation. In this way there occurs not only a positive loss to the organism of much needed pabulum, but a still greater injury through the absorption of toxic substances resulting from these morbid processes.

To offset the depressing effects of this two-fold injury there is often a craving for food in abnormally large quantities, which when taken in the three usual meals daily, embarrass the system and aggravate the existing disease by overburdening the viscera, producing stagnation and retarding digestion with dilatation as an ultimate consequence. One remedy in such cases is to prescribe more highly concentrated and nourishing kinds of aliment in the most easily digestible forms possible, and when this does not suffice to fulfil the needs of nutrition without overtaxing the organs, then to prescribe smaller meals and more of them.

Numerous theories are current as to the particular forms of diet best adapted to these catarrhal affections and much diversity of practice has resulted. A reliance chiefly upon the cereals, vegetables and fruits has been urged, especially in France, by Dujardin-Beaumetz and others, and still has earnest and honest champions in some of our American sanitariums. This vegetarian system, in addition to its cheapness, has a number of manifest advantages in its comparative asepsis, its laxative tendency, its palatability for most patients and its valuable nutritive qualities, maintaining the strength well and when it agrees often putting on flesh rapidly. Yet the observations of many physicians and my own experience in its use indicate that it is not a safe diet in the diseases now under consideration, except possibly in the mildest forms of intestinal catarrh associated with constipation. These foods disagree because they are highly fermentable and often irritating to the chronically inflamed mucous membranes.

A nearly exclusive milk diet has its votaries and in certain cases proves curative, especially when the milk can be obtained pure and comparatively fresh from the cow. The ordinary commercial milk of cities is always from one to three days old when served to the customer, and is often handled in such a careless manner as to become dirty and infected with all manner of germs, even when it escapes the grosser impurities resulting from its admixture with contaminated water and adulteration of drugs to counteract the effects of too long keeping. Happily, however, this difficulty has recently been well overcome in many of the larger cities and it is now possible, for the well-to-do classes at least, to obtain, in sealed jars, milk which when furnished by honest dealers, is comparatively pure and aseptic, and usually not more than twelve to twenty-four hours old.[1] Such a milk properly modified or diluted may be given very largely in many catarrhal cases with the utmost advantage, especially when a little good bread or toast or sometimes a few eggs are added to the daily allowance. But this method employed in a merely routine or empirical way without any exact knowledge as to either the motor power of the stomach or the faults in its secretory function is capable of doing harm. When there is much gastric dilatation or even marked atony, milk or any liquid taken in large quantities is liable to aggravate; and when the stomach is badly infected the same food is apt to ferment rapidly. It suits particularly well as a rule, in those forms of chronic diarrhea where the pancreatic secretion has been well preserved. However, as Ewald so well says: "It must also not be forgotten that an exclusive milk diet is a kind of slow starvation, and that to live on milk alone would require much larger quantities than the capacity of the stomach would allow."[2] Hence such a diet can not be long persevered in without unduly lowering the strength.

In chronic gastric catarrh Ewald and most of the German authorities advise a mixed diet without any very severe restrictions. They allow meats, eggs, milk and many of the carbohydrates, proscribing, however, freshly baked breads, etc., as well as the coarser vegetables, strong acids, sharp condiments and the stronger liquors. They recommend that the starches shall have been changed so far as possible into dextrin before their ingestion and object to dishes cooked with much fat. Ewald particularly objects also to fat meats and the oilier kinds of fish, hard boiled eggs and the tendinous parts of meat. Boas[3] takes very similar ground, but like various other German writers, prescribes diet tables with definitely weighed proportions of the proteids, fats and carbohydrates for each meal. Both Ewald and Boas very properly caution against too sweeping and arbitrary prohibitions of whole classes of foods in the diet of dyspeptics generally, since every paticnt has idiosyncrasies which need to be studied individually.

The American method of limiting these patients for a time mainly to lean meat and hot water, though on *a priori* grounds irrational and unsafe, has borne well the crucial test of experience in a large number of cases in the hands of several able physicians. In the bad cases the patients are put at once on the pulp of broiled lean beef or beef which having been finely chopped and deprived of all the fat and tendinous parts is afterward broiled in small cakes. With these is given usually a very small portion of stale bread or toast without butter and a very little raw celery or lettuce—sometimes also asparagus tips or stewed celery with occasionally one orange or baked apple

[1] Dr. Samuel G. Dixon, president of the Academy of Natural Sciences, Philadelphia, has called my attention to the fact that sometimes the men who deliver these jars refill them without cleansing, which would be highly dangerous when they have stood for hours in infected sick rooms. B. R.

[2] The Diseases of the Stomach, by Dr. C. A. Ewald, New York, D. Appleton & Co., 1894.

[3] Diagnostik u. Therapie d. Magenkrankheiten, von Dr. I. Boas. Part ii. Leipzig, George Thieme, 1895.

daily or a few white grapes, the skins and seeds being rejected. Coffee and tea may or not be allowed, but the patient is required by most advocates of the method to drink from one to two quarts, and sometimes three quarts, of hot water every day. As improvement sets in and fermentation lessens, the number of articles permitted is gradually enlarged, but upon the first sign of a relapse the strict meat diet is resumed.

In other cases where the digestion is somewhat better, lean meats are allowed from the start in the usual forms of tender beefsteak and lamb chops, the fat and gristle being rejected.

Carried out with extreme rigorousness in cases adapted to it, this system of diet will in the course of four or six weeks, even without the aid of stomach washing, often greatly lessen fermentation. It will ameliorate markedly many stubborn cases of gastric or intestinal catarrh and according to the testimony of some of its most zealous champions, may even, when followed up later in a modified form, effect a radical cure, though not usually before the end of two or three years.

The more enthusiastic advocates of this exclusive diet recommend it as a rule in all cases of gastro-intestinal catarrh, and it can not be denied that in a considerable proportion of such cases when intelligently directed and faithfully carried out, it does well. It supplies an abundance of highly nourishing albuminoid material in a form which is comparatively easy of digestion, and at the same time is very much less fermentable than most other foods. It is also of small bulk, except when inordinately large quantities of water are taken, thus aiding in overcoming dilatation of the stomach and bowels. The chief objection to it is that the proportion of carbohydrates and fats is far too low to support nutrition well for any great length of time. Then, too. the large quantities of hot water often required to be taken with the meat in order to keep up a sufficiently active elimination, have important contraindications. When the heart is very weak, a serious embarrassment may result from throwing into the circulation such unusual amounts of fluid, and when there is much dilatation or even marked atony of the stomach walls, these conditions are almost sure to be aggravated by taking in so much fluid.

Another objection to the routine employment of such an almost exclusive meat diet is that it is excessively stimulating to the gastric glands in cases where hyperchlorhydria complicates chronic gastric catarrh.

Until recently the possibility of the coexistence of these two conditions was not recognized, but various observers have shown of late that we may have an acid gastritis that is a true catarrhal inflammation, along with a highly excessive secretion of hydrochloric acid. My own clinical work has confirmed this view. Experiments conducted in my laboratory have demonstrated, as mentioned in a previous paper,[1] that a meat diet powerfully excites the secretion of hydrochloric acid, thus tending to exaggerate the condition of hyperchlorhydria.

Numerous patients were put on a diet of meat mainly and the stomach contents analyzed every one to two weeks after the usual Ewald test breakfast. Some of these patients had in the beginning a normal proportion and others an excess of hydrochloric acid. The result was almost without exception a decided increase of the acid while on the diet. This was especially true in all the cases of the hyperchlorhydrics, except where the stimulating effect of the diet was counteracted by large doses of an alkali and sometimes even in spite of this. Evidently, therefore, this diet however useful in suitable cases, would be unsafe as a routine method in all, without thorough analysis and tests in every case.

Personally, I have found more difficulty in getting patients to carry out the meat-and-hot-water method, with the necessary strictness, for many months together, than in inducing them to submit to lavage with a diet somewhat more liberal though on similar lines. My results, too, in chronic gastric catarrh have been better since I have been employing lavage along with a diet in which lean meat, eggs and milk predominate, excluding sugar, shellfish, hot or fresh breads, fried foods, all the less digestible vegetables as well as the coarse cereals and restricting starch foods to a few of the blandest in small amount. Stimulants and the stronger condiments are cut off as a rule, to which there are some exceptions. All the more acid fruits, especially those with small seeds, and all hard and gritty articles incapable of perfect solution, are strictly forbidden. In the worst cases I frequently, at first, prescribe either the pulp of lean beef or juice expressed from the same as almost the only food for a few days. When perfectly fresh eggs can be had they are usually added, being eaten either raw, soft boiled or poached. The whites beaten up and taken raw agree well even when the stomach is very irritable and make an ideal food. Then gradually the dietary is enlarged, watching the effects upon the urine, mucous secretion, body weight and condition generally.

In the pronounced cases of gastric catarrh with an excess of hydrochloric acid (acid gastritis) I often find it necessary to restrict the dark meats especially, ordering eggs and milk instead, with the gluten preparations and a small amount of white wheaten bread, preferably in the dryer forms so as to obtain a larger admixture of the saliva. The farinaceous food in these cases should be predigested so far as possible by heat. It is sometimes well to let the patient take daily one lunch or light meal consisting mainly of bread or other preparations from grains, changed so far as it is practicable by heat into dextrin, as in the form of toast or zwieback or the various malted foods. Good fresh milk is a good accompaniment of such a meal. Otherwise he should be advised to take whatever carbohydrates there may be allowed, in the early part of one or more meals, following these later with meat or eggs. In this way the salivary digestion is given an opportunity of proceeding well on toward its completion before the time—usually about twenty to thirty minutes from the beginning of the meal—when the secretion of hydrochloric acid has become large enough to arrest the process.

In the cases of gastric atrophy in which there is practically no longer any secretion in the stomach, I have not found a meat diet to suit well as a rule, even when full doses of hydrochloric acid and pepsin are given. Sometimes eggs raw or lightly boiled agree better. Here, however, the best grades of the cereal preparations made of finely ground and bolted flours or meals with milk peptonized or not, according to the condition of the pancreatic and intestinal secre-

[1] "The Excessive Secretion of Hydrochloric Acid by the Stomach and its possible serious Consequences." By Boardman Reed, M.D., International Clinics, vol. i, seventh series, 1897.

tions and with the addition usually of a certain amount of eggs, has seemed to succeed best.

But in the cases of chronic gastric catarrh in which the secretion of the hydrochloric acid is merely diminished, the results from a diet of meat and eggs chiefly are often excellent. To supplement the work of the stomach glands hydrochloric acid can then be administered in quite small doses with usually the happiest results.

Observations in my laboratory have shown beyond question that 0.3 to 0.6 c.c. of the dilute hydrochloric acid given during the period of digestion in such cases tend strongly to promote the secretion of the gastric glands, so that it is not uncommon to find after a few weeks of such treatment, even when not conjoined with other roborant measures, a largely increased percentage of the acid as shown by analysis after the usual test meal.

In intestinal catarrh the selection of the diet must turn largely upon the condition of the stomach digestion. When the case is complicated by hyperchlorhydria the diet above recommended for that condition will generally be the most suitable. These are cases in which a milk diet frequently gives the best result. The same with the cautious addition of meat juice and eggs will usually agree well in cases of intestinal catarrh with very small or absent digestive power in the gastric glands, provided any deficiency in the secretion of the pancreatic juice shall be made up by the administration of a good active extract of pancreas.

When the intestinal catarrh is conjoined with good stomach digestion—a not very frequent combination however—there may be a full allowance of meat along with the blandest vegetables and farinaceous foods, though even here milk and eggs will often agree better.

PHYSIOLOGY OF THE COLON, SIGMOID AND RECTUM.

Presented to the Section on Physiology and Dietetics at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

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In obscure cases of disease of the rectum and sigmoid flexure, inversion of the trunk seventy to eighty degrees, dilatation of the anus with Sims' speculum, inflation of the bowels and electric or reflected light (the former is preferable), are indispensable to a thorough ocular examination and diagnosis. In such cases I have used a rubber tube, eighteen inches long, with good results. By inversion of the trunk seventy or eighty degrees the pelvic and abdominal contents gravitate toward the diaphragm; a vacuum is formed in the rectum and sigmoid which become inflated with air under forced expiration and anus patulous and retracted with a Sims' speculum; the mucous folds are effaced, and the bowel has almost the appearance of a straight tube; on inspiration the bowel collapses and presents a curved tube, the mucous folds resuming their normal position.

The upper end of the rectum is much smaller than any other part of it, and presents a cavity closed from the sigmoid flexure, because the circular muscular fibers of the latter act as a sphincter, except during forced expiration and defecation; at such time the rectal cavity and lower part of the cavity of the sigmoid flexure seem one. Gray's "Anatomy," page 806, states that the sigmoid flexure is the narrowest part of the colon.

The rectum is cylindric, not sacculated like the rest of the large intestine. It is narrower at its upper part than the sigmoid flexure, gradually increasing in size as it descends and immediately above the anus presents considerable dilatation. It is capable of acquiring enormous size; when distended it is funnel-shaped and naturally is a closed cavity caused by approximation of Houston's folds and action of the circular muscular fibers. "The sigmoid flexure has great mobility, with the hand introduced into the bowel a point above the umbilicus has been reached."

Ocular examination of the cavities of the rectum and sigmoid flexures, though one is expert in handling instruments and focusing reflecting light on the parts to be seen, is no easy feat to accomplish except by practice. The subject to be examined should be slender and emaciated and willing to bear some slight pain and discomfort in the accomplishment of inspection; the sphincter ani should be previously dilated or relaxed and dilatable. If sunlight is reflected into the rectum the head of the patient should be toward the sun, if other light be employed it should be to one side—the left is preferable. The trunk must be inclined to the left side and inverted to an angle of seventy or eighty degrees and the thighs flexed; both should be supported on hard pillows. The speculum (Sims') is introduced into the anus and rectum, retracting the former, the lower and about half of the middle third of the latter with the coccyx. The nates must also be retracted. The anterior rectal wall, or recto-vesical wall, and anterior wall of sigmoid flexure are to be pressed forward out of the way by the blunt-pointed sound or applicator, or by inflation of air, the retraction of the anus and rectum pressing the anterior rectal wall and the anterior wall of the sigmoid flexure forward. The reflection of light or use of the electric lamp introduced within the bowel must be done simultaneously with forced and prolonged expiration.

The function of the sigmoid flexure is a receptacle for the feces as they pass from the descending colon, it being closed at its lower end by circular muscular fibers separating the sigmoid flexure from the rectum. The shape of the sigmoid flexure lessens or breaks the force of gravity of the feces; if the bowel at this point was a straight tube the intestinal contents would descend at once to the anus and cause continual inclination to defecate in the sitting or erect position. When the sigmoid flexure becomes filled normal reflex action by the spinal nerves is produced, causing contraction of the circular and retraction of the longitudinal muscular fibers, by which the length and lumen of the bowel are made less above; the circular muscular fibers of the lower end of the sigmoid flexure and those of the rectum, the sphincters ani included, relax and with the volition of the patient defecation is accomplished, the lungs being inflated, and the diaphragm and abdominal muscles contracted, thus lengthening the contents of the abdominal cavity.

Another function of the sigmoid and rectum and colon is to absorb nutritive enemata and sustain life in gastro-intestinal diseases. Physiologically the rectum is a closed and empty cavity (except during forced expi-

[1] At Winchester, Ky., June, 1886, the author read a paper before the Kentucky State Medical Society on ulceration of the sigmoid cavity, "Inversion of Trunk, Electric and Reflected Light in Diagnosis and Treatment," which was published in the American Practitioner and News, Vol. 2, New Series, No. 17, August 21, 1886, at Louisville, Ky. On Nov. 30, 1885, the writer was the first to do sigmoidoscopy.

ration and defecation), and separated from the sigmoid cavity above by contraction of the circular muscular fibers of the latter at its lower end. The rectum has the following mucous folds, viz., the longitudinal fold at the lower part of the bowel and Houston's folds, each being half an inch wide and semilunar in shape, these are sometimes three or four, but sometimes only two. One is situated on the right side of the rectum near its upper end, one on the left side lower down; the largest one on the anterior rectal wall opposite the bladder and the posterior fold on the rear wall of the rectum an inch from the anus. These folds with the circular muscular fibers of the rectum and of which the sphincter ani is composed, together with the levator ani and coccygeus muscles, act as a support to the sigmoid flexure when it is filled with fecal matter. When defecation is postponed, though the desire is present and urgent and feces have passed into the rectum, the latter by contraction of its circular and longitudinal muscular fibers (the mucous folds acting as valves or elevators) returns the feces to the sigmoid cavity. After the desire to defecate has passed the rectum is found to be empty. But, should defecation be habitually postponed from day to day or two or three times a week, though demand is urgent, the bowel becomes habitually distended, fails to contract or retract, and the rectum instead of being physiologically empty, becomes pathologically distended and relaxed. Constipation or diarrhea would then cause the same relaxation of the involuntary muscular fibers.

The glands or crypts of Lieberkühn are simple tubular depressions of the intestinal mucous membrane, thickly distributed over the whole surface both of the large and small intestine. In the small intestines they are visible only with the aid of a lens, and their orifices appear as minute dots scattered between the villi. They are larger in the large intestine and increase in size the nearer they approach the anal end of the intestinal tube; in the rectum their orifices may be visible to the naked eye. In length they vary from 1/180 to 1/160 of an inch. Each tubule is essentially similar in construction to the intestinal mucous membrane, viz., a fine basement membrane, a layer of columnar epithelium, many of which cells are goblet cells lining it and capillary blood vessels covering its exterior, the free surface of the columnar cells presenting a striated appearance.

The mucous membrane of the large, like that of the small, intestine is lined throughout by columnar epithelium, but unlike it is quite destitute of villi, and is not projected in the form of valvulæ conniventes. Its general microscopic structure resembles that of the small intestine, and it is bounded below by the muscularis mucosæ. The general arrangement of ganglia and nerve fibers in the large intestine resembles that in the small.

Glands.—The glands with which the large intestine is provided are of two kinds, the tubular and the lymphoid. The tubular glands, or glands of Lieberkühn, resemble those of the small intestine, but are somewhat larger and more numerous. They are also more uniformly distributed. They increase in size the nearer they approach the anal end of the intestinal tube. In the rectum their orifices may be visible to the naked eye.

Nutritive liquid material in the rectum, sigmoid and colon enters the circulation through osmosis and filtration. Crystalloid substances as alcohol, sugar, ordinary saline substances should be combined with the liquid nourishment to hasten absorption.

The diffusibility of the substance to be absorbed is one of the chief conditions. It should be a liquid or gaseous one, as the less dense the fluid the more speedy, as a general rule, is its absorption by the lymphatics and blood vessels. The more anemic the patient and the less congested the blood and lymphatic vessels the more rapid is the absorption process. The more tense the vessels the less rapid is absorption; absorption may be entirely suspended from arrested function, by congestion and inflammation of rectum, sigmoid and colon with full and tense vessels, therefore a healthy rectum, sigmoid and colon are highly essential to feeding by this route. The more rapid the circulation, without inflammation, in rectum, sigmoid and colon the quicker is absorption accomplished. A colitis, sigmoiditis or proctitis with or without anal fissures, ulcer in lower third of rectum, acute or subacute inflammation of hemorrhoids or malignant disease will interfere seriously with feeding per anum. At least once a day the colon should be washed out with a warm antiseptic solution of from one to four pints; the patient in Carpenter's posture, viz., on left side, left shoulder and side of head with hips raised to an angle of 40 to 80 degrees. Through gravitation and retrograde action of the longitudinal and circular muscular fibers of the rectum, sigmoid and colon the enema will reach the caput coli. Weak crystalloid solutions are more readily absorbed than strong ones. The chlorid and the carbonate of lithium are most easily absorbed by an empty stomach and doubtless the same is true of an empty colon. The epithelium as well as the glands and blood vessels is a prominent factor in colonic absorption and alimentation. Strychnin in solution and some other drugs are more quickly absorbed by the rectum than by the stomach.

Dr. J. Peyton of Stanford, states that he nourished a lady for three weeks by rectal alimentation with peptonized beef, white of egg and sweet milk given every four to six hours. Patient had gastro-enteritis; recovery followed.

A physician of Louisville nourished for more than a year a patient who had ulceration of the stomach, with sweet milk and whisky only, per rectum.

Another physician nourished a patient three weeks with enemata of bovinine. Patient was weighed before and after this method of feeding and had not lost any flesh.

Mrs. ——, age about 43 years, had mental aberration and would not eat or swallow her food. Family would not consent to feeding by stomach tube, hence rectal alimentation was used. Four to eight ounces of warm milk and a tablespoonful of whisky were given every four to six hours, with hips elevated high during and for half an hour after the use of the nutrient enema. Rectal treatment continued three weeks. Recovery of patient complete.

Mrs. A. T., age 44 years, had mental aberration; would not eat or swallow. She was nourished for six weeks with enemeta of sweet milk, whisky, quinin and sodium chlorid administered high up in the rectum by elevating the hip from 40 to 60 degrees. With elevation of the hip on the left side the pelvic contents gravitate to the diaphragm, the rectum and sigmoid retrograde and the nutrient enemata are forced into the descending and transverse colon. Inunctions and massage with olive oil every four hours were also used. At the end of six weeks the patient was stronger

and had gained some flesh. Unfortunately she was not weighed before and after the course of treatment. The patient recovered.

Miss ——, age 28 years, had typhoid fever. Deafness, amblyopia and semi-unconsciousness occurred in the third week of the disease, with inability to swallow. There were no signs of hemorrhage of the bowels at any time; pulse was exceedingly feeble and dicrotic, often imperceptible. Hot or warm milk, c.c. 118 to 237; sodium chlorid, grams 2, and whisky, c.c. 30 were given, per rectum, every four to eight hours night and day for three months or more. At times the whites of one or two eggs were added to the milk, or a warm eggnogg was given per rectum.

L. T., age 2 years, a negro child, first had scarlet fever, then diphtheria. In three weeks from date of contracting diphtheria the palatal and pharyngeal muscles were in a state of paresis, and patient could not swallow. Rectal feeding was resorted to with satisfactory results. Milk, c.c. 118; whisky, c.c. 7.4; quinin, grams 13, and salt, gram .65 were mixed and injected warm into the bowel every four to eight hours. Rectal feeding was continued over a period of two months.

The writer has repeatedly passed enema to caput coli by elevating the hips.

A patient now at the Joseph Price Hospital, Stanford, Ky., who had chronic gastro-enteritis for years had a subacute attack and for three weeks or more has been fed with nourishing and stimulating enemata and is improving nicely.

The last four cases, in addition to the stimulating and nutritive enemata, were given the tincture of nux vomica.

Aphorisms.—The rectum, sigmoid and colon must be washed out once or twice a day with hot sterilized water to which has been added carbolic or boric acid.

Hot or warm soothing, non-irritant, nourishing, stimulating or sedative and tonic aseptic enemata can be used in rectum with impunity. Whisky, brandy, alcohol, salt, sugar or sodium carbonate are crystalloids and hasten absorption. By bringing to the boiling point, then adding pancreatin, sodium carbonate or sodium chlorid prepares milk for colonic and sigmoid absorption. Elevate the hips of the patient to 40 or 60 degrees, secure the advantage of gravity and the retrograde action of the rectum and sigmoid from anus to caput coli. When the hips are thus elevated the anus and lower rectum lose their irritability and reflex excitability, the anus and lower rectum if in a physiologic condition are made patulous and, with the coccyx, are easily retracted. The so-called "passing the rectal tube beyond the sigmoid into colon," as is taught by our college professors can not be done. The author has repeatedly proven that unless you place the patient in the "Carpenter posture" the tube is bent upon itself, one or several times, or the tip descends back toward the anus and the enema is found in the rectum. The safest, surest and best way to intubate the sigmoid is in the Carpenter posture, and best by Carpenter's sigmoidoscopy. Where there are hemorrhoids, anal fissures or ulcers in lower rectum, anal divulsion should be done as a palliative prophylactic measure, under anesthesia.

Rectal divulsions of the sphincters, besides its paretic and therapeutic effects on the lower end of the rectum and anus, causing rest, making the anus patulous and allaying irritability and curing pathologic lesions, has another function, that of nerve-stretching of the fourth sacral and inferior hemorrhoidal nerves, thereby cutting off connection between the spinal cord, the levator and sphincters, and placing at rest the bladder, rectum, vagina and perineum.

In the Carpenter posture the colon advances toward diaphragm, the sigmoid becomes elongated, loses some of its curves and becomes more like a straight tube—the longer the mesosigmoid the more elongated and less curved the sigmoid, and *vice versa*.

In rectal feeding the enema should always be as warm as can be borne. Beef peptonoids combined with warm milk, bovinine and water, with or without whisky or brandy, or hot milk with salt or sugar make nutritive enemata that can be alternated as required. If a tonic is needed, quinin, strychnia or tincture of nux vomica can be added to the nourishing enemata; if an anodyne, morphin, papin or laudanum can be given in the same manner.

IMPORTANCE OF PHYSIOLOGICAL KNOWLEDGE TO THE GENERAL PRACTITIONER.

Presented to the Section on Physiology and Dietetics, at the Forty-eighth Annual Meeting of the American Medical Association held at Philadelphia, Pa., June 1-4, 1897.

BY ALBERT E. MILLER, M.D.

BOSTON, MASS.

The lowest form of life is a cell, which is defined as a minute mass of protoplasm. Each individual cell is of sufficient importance to have a life history of its own. It has its origin from some pre-existing parent cell, grows, fulfils its mission, produces other cells, wastes away and dies. All action is attended with waste. There must be food supplied in proportion to this waste or existence would cease. If the supply is less than the waste existence may be prolonged but must finally terminate. If the food supply equals the waste, there will be no apparent change. If it exceed the waste, there will be increase in growth. To keep an animal in a perfect condition the quality and quantity of food should be such as will best supply the place of that which is worn out. In the development of the infant after birth nature furnishes food which is typically perfect. In milk we find all of the various elements necessary for sustaining life and all that is necessary for the nourishing and building up of the tissues. In it we find albuminous material in the form of casein and serum or lac albumin, fats in the cream, carbohydrates in the form of lactose or milk sugar, salts in the form of calcium phosphate. All that is necessary for the development of every part of the system, bone, muscle, nerve, etc., in the right proportions. If from any cause we are obliged to substitute cow's milk, which is too rich in casein and fat, and deficient in sugar, we dilute with water and add sugar so as to bring it more nearly to the composition of human milk. Other foods may be successfully substituted if we keep in mind the exact composition of the typical food which nature furnishes. We should always imitate nature's food as nearly as possible unless from some diseased or deranged condition it is desirable to make a change to meet some morbid demand.

In its mother's milk the infant finds all that it needs for the growth of its body. The casein is used in the development of its muscles and gelatinous tissues. The cream is changed and deposited in the adipose cells or consumed at once to produce the animal heat.

The phosphate of lime is used to develop the osseous system which is now increasing rapidly. If there is a change or necessity to meet, nature modifies the food accordingly. In the case of the calf, colt and animals which commence locomotion very soon after birth, where exercise is often very great, the nitrogenous principle of the milk is increased. This excess of casein is necessary on account of the excessive waste resulting from the extra exercise. Judging from these facts we would naturally, as the child grows older and exercises more, change the food, increasing the nitrogenous principle in proportion, to meet the resultant waste. A knowledge of physiology will enable us to select that kind of food which is demanded by the age, condition and temperature. Foods are usually divided into organic and inorganic. A very convenient subdivision is to divide the organic into first, nitrogenous; this embraces substances consisting of proteid, examples of which are albumin, casein, myosin, gluten, fibrin, legumen, etc.; second, non-nitrogenous, these are: *a*, amyloid or saccharin bodies, sometimes called carbohydrates; examples of these are starches and sugars; *b*, oils and fats, substances which contain carbon, hydrogen and oxygen, the oxygen being less than in the amyloids and saccharin bodies.

Inorganic: first, foods which furnish to the system the required salts; second, liquid food, this is chiefly water. After we thoroughly understand the best diet for perfect health, it is comparatively easy to select a diet for different temperatures and conditions. In very cold seasons and climates we require more heat-producing material. This is furnished by the carbohydrates and the oils and fats. In warm seasons of the year, or if our employment is in a warm room we should diminish the use of these articles in proportion to the change. If our employment requires great muscular exertion we should increase the tissue-making material; the proteids, foods which contain a large amount of nitrogen, such as albumin, casein, fibrin, gluten, legumen. These are to be found in eggs, beef, milk, bread, beans, etc. In diseased conditions we should select the food with still greater care. If, as in fevers and inflammations, there is an excess of heat we should diminish the amount or abstain from the use of heat-producing foods, such as starches, sugars, fats and oils. If there is a lack of exercise and a consequent lack of waste of tissue, we should lessen the tissue-making material. If there is an excessive waste of nerve tissue we should give our patients the kind of food that will compensate for this excessive waste. Experience has taught me that in the treatment of phthisis, neurasthenia and in fact all wasting diseases more may be done with food than with medicine. Medicine may be an aid but the great reliance should be placed upon the food. If in health we are made directly of the food we eat and our condition is influenced by that food, how much more important is this knowledge when our patient is wasting away from disease. Since putting these principles into practice I have not lost a case of typhoid fever and my success in the treatment of other diseases (most notably chronic) has been much increased.

The Initial Manifestations of Leprosy.—Prof. O. Peterson concludes from a study of 1200 cases of leprosy, that the mucous membrane is first affected by the bacillus, especially the nasal mucosa. The first manifestation on the skin is in the form of spots, usually red, sometimes symmetric, either on the face or extremities. The nodules develop later.—*Wratsch*, No. 43.

THE REGULAR PROFESSION OF MEDICINE.

Read before the Kalamazoo Academy of Medicine at its Annual Meeting, Jan. 4, 1898.

BY W. H. HAUGHEY, M.D.
BATTLE CREEK, MICH.

The average medical writer is so deeply interested in scientific investigation as to rarely, if ever, think of writing on the subject of the regular profession of medicine. This probably accounts for the scarcity of articles seen on that important subject, but never was the scriptural injunction, "physician, heal thyself," more applicable than at the present time.

The term "regular" is but little understood by the the laity, most thinking that any one who assumes to be a doctor, and who obtains his living by the practice of medicine, is a regular doctor because he is nothing else, and while I would fain think otherwise, still I am forced to believe that there are some bearing that proud title that are not clear enough in their understanding of the definition of the word to be ready at all times and at all places, to give a full and clear explanation of its meaning.

I am frequently asked, "Doctor, are you an allopath or a homeopath?" My reply invariably is, "I am neither; I am a regular." That detestable sand-bur, allopath, that was thrown at the regular profession by Hahnemann and still continues to attach itself to our clothing, has done more to befuddle the minds of the laity than anything else, except the apathy displayed by the profession itself regarding it. If every member of the regular profession would immediately and positively repudiate the word as soon as, and on every occasion when it is, applied to us, the laity would soon discard it and we would hear it no more.

The members of the regular profession can no more justly be termed allopaths than they can be homeopaths. Accepting either implies that we rule out some things from our armamentarium, and thereby lessen our usefulness just that much. As the homeopathist uses "similars" to the exclusion of all other drugs, and the allopathist uses "dissimilars" to the exclusion of all others, it is plain that each by curtailing his source of supplies and depending upon those belonging to the creed of his adoption, has lessened his usefulness in exact measure to the therapeutic value of the remedies discarded.

The word "pathy" signifies narrowness, and if a sick man trusts himself to the care of one who follows a pathy, he must simply conform his sickness to the path or pathy. In other words, the practitioner, confident in the infallibility of his pathy, requires nature to conform herself to it, and if she does not, then the patient must die. Fortunately a large per cent. of sick people get well anyway, and nature unaided would effect about 90 per cent. of cures of some kind.

The regular profession rises superior to pathies, and uses anything under heaven that will relieve suffering humanity no matter from whom or what source it comes. Neither must you use large doses, for there is nothing to prevent a "regular" from using infinitesimal doses if he believes it best for his patient.

The regular profession rationally pursued requires a thorough knowledge of physiology, pathology and therapeutics. Then, given a pathologic condition, simply apply the rational therapeutic remedies to quickest and best aid nature to restore a physiologic condition.

There is but one science of medicine, and as science is broad as the universe, it follows that the science of

medicine must be equally broad and embrace every agent under heaven, known or unknown, and is therefore forever at variance with a path or pathy. To the scientific mind there is something so supremely ridiculous in endeavoring to apply a pathy to science or science to a pathy, that were it not for the credence given those who proclaim themselves pathists, the subject would be considered too absurd for notice, but as these pathists are constantly advertising themselves as such, and then covertly using "regular" principles so far as they know, they are therefore practicing the most contemptible deceit on the laity and working a great injustice to the "regular" profession, for by using its principles to obtain results in their work, and then applying the credit of these results to their pathies, the "regular" profession is robbed of the credit due it, which being applied to the pathy makes a double injustice.

To illustrate: Some of the pathists depend so entirely on symptoms as to expose themselves to the charge of being symptomatologists. Now, what does that mean? It means that the remedy is to be decided by the symptoms present, therefore the symptoms must be developed before the remedy can be determined. In fact symptomatology pure and simple, teaches that it makes no difference what you name the disease if you closely watch the symptoms; for certain conditions will cause certain symptoms, so watch the symptoms, treat them and never mind the disease, thus placing entire reliance on symptoms.

Now, note the difference. The regular science of medicine teaches the all-important subject of pathology, built on a thorough ground-work of anatomy and physiology. Pathology, teaching as it does the nature of disease, enables us by our knowledge of it to know in a given disease what symptoms to expect from day to day. To illustrate more plainly:

Patient No. 1 treated by a "regular." Patient No. 2 treated by a symptomatologist.

The "regular" sees his patient and the first thing he does is to make the diagnosis, which he decides to be lobar pneumonia of one day's standing. Knowing the pathologic history of pneumonia he expects a crisis about the fourth or fifth day, and he immediately prepares as best he can for it by applying the known principles of therapeutics applicable to the case, and hopes with good reason to guide his patient safely past the danger point to a good recovery.

The symptomatologist sees his patient and notes fever, quick pulse, rapid respiration, pain in chest or stomach, cough. For each he leaves an appropriate remedy. Next day symptoms, fever, rapid pulse and respiration, more pain, nervousness, cough, which requires a slight change in remedies left. Third day, more pain, cough, very nervous, wakeful, perspiration, another set of remedies required. Fourth day delirium, different remedies. Fifth day patient is dead and no remedies required.

I am aware that I have painted this picture black, but I have seen just this happen, and I wish to ask in all candor which patient has the best chance for his life, the one who has his disease correctly diagnosed from the start, and is under the care of a physician who bends every effort to forestall those fatal symptoms that he knows do occur in the history of the disease, or the one whose disease is not diagnosed and the medical attendant follows along behind treating the symptoms after they arise? Should he do otherwise he will be applying "regular" principles, and the results obtained should be credited to the regular profession.

Let me exhort all who proclaim themselves pathists to follow each his own respective pathy or creed vigorously like a man, or if you deem your pathy insufficient, then drop it altogether and come into the regular profession body and soul. The profession is broad enough to furnish you ample scope for your faculties, and will receive you with open arms when you come with an honest purpose, but be honest. Be one or be the other, but do not practice one and give the credit to the other.

Let "regulars" employ every opportunity to proclaim themselves such. Never allow the word "pathy" to sully your garments or tarnish your fair name Repudiate it whenever, wherever and by whomsoever applied. Do it with kindness and dignity, and neither you nor the profession will suffer thereby.

While there are many good, ample and sufficient reasons why a regular should not call an irregular to consult with him; still if the patient has been employing an irregular and needs your counsel, it seems to me your duty is plain, for as the regular profession embraces everything under the sun that can help the patient, it certainly embraces all the pathist is doing and whatever is to be done besides, and if the pathist will give you due credit for your advice and you can agree pathologically, you may do the patient good and still preserve your professional dignity.

SOCIETY PROCEEDINGS.

The Quarantine Convention of the South Atlantic and Gulf States.

The Program outlined was Changed.

The Convention Decided to Discuss the Questions of State and National Quarantine Before Anything Else.

The quarantine convention of the South Atlantic and Gulf States convened in the Princess Theater, Mobile, Ala., at 10:40 A.M., Wednesday, February 9.

At that hour Dr. W. H. SANDERS, State Health Officer, requested all the members of the executive committee to take seats upon the stage.

This request was acceded to by those present, and when Governor Johnston ascended the stage he was greeted with applause.

Dr. Sanders then, as chairman of the executive committee, nominated Governor Joseph F. Johnston for temporary chairman. This nomination was greeted with applause, and was adopted.

Governor Johnston took the chair and announced that the convention would be opened with prayer by Rev. J. R. Burgett, D.D., pastor of the Government Street Presbyterian Church.

At the conclusion of Dr. Burgett's prayer Governor JOHNSTON said in substance:

"It is hardly necessary for me to say that the people of this State feel gratified to have you here, whether you come from our own State or from other States of this grand Union; and so long as this fair city stands here by the sea, so long will Alabama welcome the representatives of other States within her borders. We are glad to have you here—representatives of Texas, Louisiana, Florida, Georgia, the Carolinas and other States. If an armed enemy threatened our shores, it is to those States adjoining us that we would turn for aid. When we come to consider the entrance of an enemy worse than an armed foe, it is to these States that we look for aid. This insidious enemy threatens our lives, our commerce and business interests, and we are here to devise the best means of keeping out this disease. I am not going to lengthen these proceedings by making a speech, but will turn the business over to the convention believing that methods can be devised

whereby the States and National government, each in its own proper sphere, can control these matters of quarantine."

On motion of Dr. Sanders, Dr. H. A. Moody, was elected temporary secretary.

Dr. Sanders moved the appointment of a committee on credentials to consist of one from each State; adopted.

Mr. John B. Knox of Anniston moved that the list of States be called and the delegates send up their names to the secretary; adopted.

The secretary then called the roll of States, and the delegates sent up their names to the secretary.

Governor Johnston then appointed the following committee on credentials:

Hon. P. W. Meldrim of Georgia, Dr. S. R. Olliphant of Louisiana, Dr. H. A. Moody of Alabama, Dr. J. H. Purnell of Mississippi, Dr. R. P. Daniel of Florida, Dr. H. B. Horlbeck of South Carolina.

Dr. Sanders moved the appointment of a committee on permanent organization, to consist of one member from each State; adopted.

Governor Johnston appointed the following committee:

Dr. W. H. Sanders of Alabama, Mayor C. A. Collier of Atlanta, Dr. N. L. Clarke of Mississippi, Dr. Bat Smith of Texas, Dr. Edmond Souchon of Louisiana, Dr. H. B. Horlbeck of South Carolina, Hon. J. E. Grady, J. L. Ludlow of North Carolina.

On motion a recess of fifteen minutes was taken to allow the committees to formulate their reports.

Dr. Edmond Souchon of New Orleans, read the following majority report of the committee on permanent organizations:

Dr. C. P. Wilkinson of Louisiana, president; Dr. R. P. Daniels of Florida, J. L. Ludlow of North Carolina, Dr. H. B. Horlbeck of South Carolina, Dr. Bat Smith of Texas, Dr. O. B. Quinn of Mississippi, Hon. Leslie E. Brooks of Alabama, Charles Chassaignac of Louisiana, Clarence Knowles of Georgia, vice-presidents; Dr. H. A. Moody, secretary.

The committee also recommended a change in the program so that the first matters of discussion be the subjects of State and National quarantine, and that all questions relating to these matters outlined in the program proposed by the executive committee be considered together.

Dr. Sanders submitted a minority report urging that the program remain as outlined. He said it had been drawn up carefully after a good deal of correspondence and those matters placed first were the bedrock upon which the whole subject of quarantine is based. He urged that the program be adhered to.

Dr. Horlbeck of South Carolina, held that the matters of State and National quarantine were the bedrock of the matters for the discussion of which the convention has been called.

The majority report was adopted as to permanent officers, and Dr. Wilkinson was called to the stage. As he took his seat he was applauded.

He thanked the convention for the honor conferred upon him.

He then called for the report of the committee on credentials, and Dr. Moody, chairman of that committee, reported that it would be several hours before a roster could be completed, and that those present be recognized as prima facie delegates until the roll is complete.

There being no objection, it was so ordered.

It was moved the majority report be adopted.

Dr. Sanders moved a substitution of the minority report for the majority report.

Mayor Collier of Atlanta said that this convention met for business and we want to get to business at once. The whole country recognizes that the great practical question to be considered by this convention is the question of National and State quarantine. The program has been lengthened out over a number of topics that will take up an entire week or more. Why, the Senate of the United States has been asked to stop its deliberation till this question can be passed on by this convention. One of the subjects is "What constitutes an original package?" Why, the supreme court of the United States has not been able to settle that question. Let us get down to the discussion of practical questions and leave such topics for experts.

The vote was then taken on the substitution of the minority for the majority report, and the motion to substitute was lost.

The majority report was adopted by a large majority.

Dr. Souchon, chairman of the committee on permanent organization, then read the order of business as to consideration of the program: Nos. 1, 2, 3, 4, 12, 29 and 30, then to follow the program as outlined.

It was moved and adopted that papers be limited to twenty minutes and discussion to five minutes to each speaker, and this rule be inviolable.

Hon. HANNIS TAYLOR then read the following paper:

QUARANTINE WITH REFERENCE TO INTERNATIONAL RIGHTS AND INTERESTS.

To me has been assigned the duty of opening the deliberations of this convention by a brief dissertation upon "Quarantine with reference to international rights and interests." I find from investigation that the plague, yellow fever, and Asiatic cholera have been the two great spreading diseases, which have been the main causes of the precautions which modern nations have been forced to take to protect themselves against epidemic invasions.

If we seek the beginnings of the history of quarantine we find them in the precautions taken by Venice, Genoa and Marseilles, in the fourteenth and fifteenth centuries, to prevent the introduction and spread within their bounds of the plague, a disease coming from the East. When we turn our eyes to the new world, we find, apart from occasional visitations of cholera, the chief object of quarantine on the American continent and adjacent islands has been to prevent the importation of yellow fever from Brazilian, West Indian and Peruvian ports, where it exists in an epidemic form. We of the South have special reasons to know quarantine for us means something to protect us from the invasion marching mainly but not exclusively from the harbors of Havana and Rio de Janeiro. I remember that the late Dr. Cochran, who in his day, was looked upon as a master of the subject of public hygiene, told me many years ago that the place for us to fight yellow fever was in the harbor of Havana. He said that if he only had the power so to purge that cesspool of filth and corruption as to put it in a sanitary condition, he believed that yellow fever could be strangled in its most dangerous lair. With that accomplished, as he thought it could be, by efficient government in Cuba, he said that the protection of our Southern ports against the invasions of yellow fever would become comparatively easy. In the light of these plain facts, it is not hard to demonstrate that every nation has a direct and urgent interest in the quarantine regulations of a neighboring State, especially when that neighboring State is the hot bed of a malignant and contagious endemic disease that is liable at any moment to cross the national boundaries. In our own case the harbor of Havana is the object lesson to which we naturally turn for illustration. I have been informed by an eminent member of our consular service, who resided there for nearly twenty years, that as an engineering problem, nothing is easier than the cutting of a canal a few miles long that would afford such an outlet to the pent-up waters at Havana as would render that harbor one of the purest in the new world. Considering that that focus of infection is only a hundred miles from our coast, as the crow flies, certainly the people of the Southern country have a direct and urgent interest that should enable us to demand that that port be put in a sanitary condition at an early day. But, when we come to consider the right, under the laws of nations, of one nation to demand of another the doing of such thing, we find nothing but a vacuum. In that particular, international law is necessarily defective by reason of the fact that each nation's system of quarantine is one of those matters of internal concern over which each sovereign state has supreme and exclusive jurisdiction. If you have a neighbor in your own town who keeps on the premises adjoining your own, some offensive or other thing that imperils the health and life of your family, you can so deal with him under the provisions of municipal law that he will be compelled to remove it. But, if a nation has a neighbor that keeps up a nuisance that imperils the lives, not only of its own people, but of all neighboring peoples, international law provides no remedy whatever. You can not invade the territory of the offending state, in order to force it to discharge its duty to itself and to humanity.

You can not send even a sanitary inspector within the limits of the infected state to study the disease in its lair, without its consent. In all such matters you can only fall back upon what is called the comity of nations. Only through international courtesy can we examine through officials the sanitary conditions of foreign ports that menace us most. Only through such courtesy are we able to take such precautions as we are now taking with the aid of our consular service in foreign lands. Because, as you all know, every consul's power to act in any foreign country depends upon his exequatur that may be withdrawn at any time. So when viewed from an international standpoint every nation has a direct interest in the quarantine system of every other nation; but no nation has any right whatever as a matter of international law, to interfere with, regulate or control, or even to pry into the quarantine system of another state.

Of course it would be perfectly proper and in order for all

nations to unite in a Congress with the view of dealing with the entire subject of quarantine from an international point of view. There is no reason why there should not be quarantine union between the nations just as there is a postal union. If there could only be a general agreement in this matter, that each state owes a direct obligation to every other state that must be discharged under a uniform system of rules to be rigidly enforced by all, a wonderful advance could no doubt be made in the right direction. But as I have been called upon only to preface this discussion, I do not feel at liberty to trespass longer upon you.

DISCUSSION.

Hon. LESLIE E. BROOKS said that the progress in ocean traffic had made an intelligent and rigid system of quarantine necessary. He said that this was due to the fact that steamships could leave the shores of an infected country and reach our shores before the known period of incubation had passed. Quarantine was necessary as carrying out the law of self-defence. Quarantine is a conservative means to conserve the self-preservation. This country has a right, if other nations fail, to fall back on the right of self-preservation and quarantine against any other nation where infection exists.

Hon. LESLIE B. SHELDON moved that such as desired be allowed to speak from their seats on the floor; adopted.

Mr. P. J. HAMILTON said there are three things about yellow fever. What is it, how to treat it, and how to prevent it.

A DELEGATE—Are you speaking to the subject, which is international quarantine?

Mr. HAMILTON—Yes, sir; we can prevent it by international quarantine. The nations of Europe are endeavoring to meet the question by some agreement between them, something in the nature of a treaty. Mobile and New Orleans have inaugurated the proper method. They have placed medical agents at infected ports, who report any danger at once. That is the way the United States can further the international quarantine. Let the United States take the lead in some convention with those countries south of us and let this matter of medical agents be perfected. There is one thing about yellow fever, and that is that prevention is better than cure.

Dr. H. M. CARTER also spoke on the subject. He said that in most of the ports of Cuba the United States had sanitary medical inspectors, and that international law is no bar to United States officials serving in foreign ports.

Hon. R. H. CLARKE said this convention ought to take some action looking to an application to the Government for the maintenance of a corps of medical experts in those foreign yellow fever ports. He moved the appointment of a committee of five medical gentlemen to name the yellow fever ports at which medical agents should be stationed, and to call the attention of Congress to the matter, as well as the holding of an international quarantine convention.

Dr. HAMILTON of Chicago, spoke of what had been done in Europe by the nations in relation to quarantine, and of the Pan-American Medical Congress at Washington.

The committee on permanent organization reported the hours of business as follows: From 9 A. M. to 1 P. M.; 2:30 P. M. to 5 P. M.; 7 P. M. to adjournment.

The convention then recessed till 2:30 P. M.

AFTERNOON SESSION.

The chair called the convention to order after recess and announced the following committee to recommend appointment of medical inspectors at various foreign ports: Dr. John B. Hamilton of Illinois, Dr. S. R. Olliphant of Louisiana, Dr. H. R. Carter of the Marine Hospital Service, Dr. R. P. Daniel of Florida, and Mr. P. J. Hamilton of Mobile.

FEDERAL AND STATE POWERS AS TO QUARANTINE.

Hon. EDWARD H. FARRAR then read a paper on "Federal and State Powers as to Quarantine." He said the line of demarcation between the two had been the battle ground of lawyers, judges and politicians for years past. He then discussed at length the legal aspect of the question, and cited the creation of the general government, which he said could have no power, except expressed in the instrument showing the grant of powers to it by the States, and referred to the adoption of the tenth amendment. The speaker discussed the relations of the States to the general government, and said that matters of quarantine were reserved to the States unless they had been expressly relegated to the general government. He spoke of the different factions in construing the constitution of the United States, and cited a large number of legal authorities and opinions of Chief Justices Marshall and Story and other justices of the United States supreme court.

Quarantine laws are health laws and belong to the police power, which have never been taken from the State, and in which rest the protection of the health, life, well-being and prosperity of the people. He held that if the State did not pass laws to prohibit nuisances, the spread of disinfection, the punishment of incendiarism, murder, assaults, etc., congress can not pass such laws. He cited a number of authorities to show that the police powers of the States had never been delegated to the general government.

He held that as quarantine laws had been classed as part of the police powers of the State, and that such police power had never been delegated to the Congress, therefore there was no power implied or expressed in Congress to pass quarantine laws.

If quarantine laws control commerce between states and nations, Congress can deal with them; but if they simply affect commerce, then the Congress has nothing to do with them, especially if they are bona fide health laws; I do not mean shotgun quarantine, nor those which prevent a train from passing from one locality through another. I believe that the enactment of quarantine laws is therefore reserved to the States.

He cited a number of legal opinions and authority on the subject.

He held that Congress had no power to pass an exclusive quarantine act, regulating both maritime and internal quarantine, and the movements of persons and goods within the limits of a State. From 1799 down, the rights of the States to pass quarantine laws had been recognized, and if this power had been specially reserved to Congress, why was it that Congress had continually recognized the right of the States to pass such laws? He declared the State sovereign and deprecated the drift toward centralization and paternalism.

The paper was a very exhaustive legal argument in favor of State quarantine. The reader was called down by the time limit.

Unanimous consent was asked for the reader to continue, but objection was made.

Hon. R. H. CLARKE then moved reconsideration of the provision limiting readers of papers to twenty minutes, which was adopted.

On motion, Mr. Farrar was then invited to continue his paper.

He thanked the convention for the courtesy and was roundly applauded.

During the continuance of his argument he was frequently interrupted by applause.

Hon. R. H. CLARKE then spoke on the paper. This is a convention gathered for suggesting the best means of keeping yellow fever out of this country. No sooner does an epidemic of yellow fever break out than we begin to call on the government for aid. We want money, camps, rations and other things, but still we say to it "hands off." Such a state of things can scarcely exist. There are two divisions of quarantine. One is a boundary quarantine, and the question is, has the general government the right to say to a vessel that it shall not enter any port or proceed up any river or harbor. The government has the power to turn back from any harbor of this country men and merchandise. He argued that the general government had the power to do these things. Before the completion of the argument the time limit expired.

There was a motion to extend the limit, but Mr. Clarke asked that such motion be not put.

DISCUSSION.

Mr. HARRY PILLANS of Mobile said the paper did not raise the mooted question as to whether the State or federal authority was best to settle the matter of quarantine. He said that what is police power is yet to be determined. I have failed to discover an epidemic of disease this summer, but we did have an epidemic of fear and cowardice. The police power is one that can be reposed in a safe government when it is reasonably exercised. The enthusiasm of our boards of health has carried them far beyond their power. The Governor of the State has had the hardihood to say that no citizen should come out of Atlanta, a place not infected, and enter the State of Alabama. I have never heard of a more despotic ruling. There was absolutely no law in right or reason for such action. He spoke of the habit of cities or towns to quarantine towns between them and infected cities unless those towns did quarantine the infected city or town.

Dr. W. H. SANDERS interrupted to say that no quarantine was declared until there was a case of yellow fever declared in Atlanta.

Mr. PILLANS said it remained a fact, however, that many towns did threaten to quarantine Atlanta unless she did as many other inhuman cities did, shut her doors against fleeing women and children.

Captain J. M. FALKNER said the Louisville and Nashville had lost thousands of dollars and he wanted to acquit the boards of health of wrong-doing. These medical gentlemen

tell us that yellow fever does not originate in this country, then why stand here and shout about States' rights? The disease comes from without and Congress having the power to regulate the foreign commerce, she should have the power to keep this foreign enemy out. The announcement of a case of yellow fever in Mobile to-night would cause a greater stampede than the invasion of the entire Spanish army. Continuing, the speaker contended that the disease being a foreign importation, the general government should be charged with the power to resist such an invasion. It is the duty of Congress to resist the invasion of this disease as it would resist the invasion of a foreign army.

So long as Havana is infected with yellow fever all vessels coming from Havana, whether they have sickness on board or not, should be treated as infected and held in quarantine a sufficient time to preclude the possibility of infection. Congress should furnish all the money necessary and the men and plants necessary to keep out this disease. With the ports bidding for commerce and no uniformity of quarantine, it is not unlikely that we shall have a recurrence of the experiences of the past summer.

Health Commissioner REYNOLDS of Chicago, said it was the hope of Mayor Carter H. Harrison of Chicago, that some action would be taken at this convention to perfect the quarantine laws. He said that Chicago was interested in the commercial side of the question and that the producers all over the country were interested in the deliberations of this convention.

W. F. VANDIVER of Montgomery, said he did not think the question of States' rights was pertinent. That was a political question and this is not a political convention. You can not expect reason from a lot of terror-stricken people any more than you can from a mob. We had an epidemic in 1873 that was frought with death, and plenty of it, and in 1897 the death rate was not so great, but there was more excitement and more loss. He related several experiences of the past summer and said that this convention should say to the United States that we charge you with keeping out the disease and if you let it get in we want you to hunt it out.

In answer to a question, he said he would place the matter in the hands of the National Government.

T. G. BUSH of Anniston, then spoke. He said he was the fourth speaker in that immediate circle, which is proof of the spirit that moves us. He told two anecdotes and said that he believed the question had been settled. Once he was a member of the legislature, and whenever some members did not want to vote for a question they would say it was unconstitutional, but he told them the supreme court would settle that. He favored relegating the matter to the general government. He did not come as a mendicant, but he asked it as a right, as a child of the Government. We want uniformity. My railroad experience is that for two weeks we could not turn a wheel. We left Anniston, went through Atlanta and then came to New York; but on our return we came around Atlanta, but the quarantine officer refused to let me in. We want no repetition of this. We want common sense. We want uniformity.

Dr. BAT SMITH of Texas, stated that Dr. Warren Stone said yellow fever was indigenous to New Orleans. You are hunting the focus of the disease in foreign ports, but if you will go around and make the people clean their city and then you will destroy the fever. A scavenger in Mobile or New Orleans is worth more than a health officer.

Dr. CHARLES CHASSAIGNAC called the gentleman to order and said the sanitary condition of New Orleans is not under discussion, and she is abundantly able to take care of herself.

The chair then read the Committee on rights of suffrage of delegates as follows:

Collier of Georgia, Clarke of Alabama, Grady of Florida, Corrie of Louisiana, Taylor of Mississippi, Ludlow of North Carolina, Horlbeck of South Carolina, Smith of Texas, McShane of Maryland, Hamilton of Illinois, Wingate of Wisconsin, Holloway of Kentucky, Robinson of New York.

Dr. ROBBINS of Mississippi, disclaimed any reflection on the Mississippi State Board of Health in his remarks at the morning session.

Dr. ROBINSON'S PAPER.

Dr. S. A. ROBINSON of New York, then spoke on the subject. He said quarantine was a common cause against a common foe, and alluded to a private opinion submitted by him, which is as follows:

Influenced by the effects of cholera upon the business and social life of New York in 1892, the New York Board of Trade and Transportation then made a pretty thorough investigation of quarantine, and recommended the immediate establishment of a national quarantine system. Congress passed an act, entitled "An act granting additional quarantine powers and imposing additional duties upon the marine-hospital service," which was approved Feb. 15, 1893. Believing the proper administration of this act would exclude diseases quarantined against, or confine them to where they first appeared and promptly eradicate them, we felt secure. Now, influenced by what Southern commerce and society suffered from yellow fever in 1897, we are collecting information regarding quarantine and the prevention of disease in general.

Being a member of the committee selected by the board for that purpose, and thinking I could learn more from the gentlemen composing this convention than from any other source I am, thanks to your courtesy, here for that purpose. We are receiving a great deal of valuable information, all of which will be at your service as soon as it can be compiled and published, but we are especially desirous for your advice and assistance, and will in return do what we can to aid you in securing legislation that will best protect the people and the business of our entire country.

I think that quarantine, or disease limiting and preventing authority, must be uniform in order to be most effective. Not uniform in methods, for conditions vary and methods must meet conditions, but uniform in spirit and power. The idea that forty-five systems of quarantine (one for each State) could best protect the people of the United States seems preposterous. To thoroughly protect our entire population such authority and regulations must be National.

To ascertain the validity of the contention that the federal government can not constitutionally establish and maintain a national quarantine system, the New York Board of Trade and Transportation decided to consult one of the best authorities on constitutional law, and selecting W. B. Hornblower, obtained the following opinion:

Hornblower, Byrne, Taylor & Miller, No. 30 Broad Street.

New York, Jan. 24. 1898.

Frank S. Gardner, Esq., Secretary New York Board of Trade and Transportation:

Dear Sir:—In accordance with your request made some time ago, for my views on the subject of national quarantine, I beg to say that I have been so occupied during the past few weeks in court work, that I have had no opportunity until recently to examine the papers you have sent me and to give the matter consideration.

As to the constitutional power of Congress to establish a department of public health and to assume control of a general system of quarantine throughout the country, I have no doubt. I do not base this power, however, upon the "general welfare" clause of the constitution. To construe that clause of the constitution so as to cover this subject would authorize the assumption by Congress of any powers which at any time it deemed for the general welfare of the public at large and would absolutely abrogate the constitutional amendment which provides that:

"The powers not delegated to the United States by the constitution, nor prohibited by it to the States, are reserved to the States respectively or to the people." (Tenth amendment to the Constitution.)

I am of opinion, however, that under the clause of the constitution authorizing Congress "to regulate commerce with foreign nations, and among the several States, and with the Indian tribes" (Section 8, Article 1), a national system of quarantine can be established and maintained.

So far as concerns quarantine regulations affecting our international commerce, there can be no doubt that the present State regulations are lawful merely because Congress chooses to allow them to remain in force and are lawful only so long as Congress chooses. I so understand the decisions of the United States supreme court. These quarantine regulations operate as restrictions upon foreign commerce and as such can be at any time set aside by federal legislation, and Congress can itself assume jurisdiction over this subject.

The right to regulate commerce "among the several States" is as broad as the right to regulate commerce "with foreign nations." It follows, therefore, that Congress has the same right to establish and enforce quarantine regulations, as affecting interstate commerce, that it has to make and enforce quarantine regulations as to foreign commerce. With regard to vessels in the coasting trade, arriving at one port from another port of the United States, the same regulations can, of course, be easily applied that are applied to vessels arriving from foreign ports. The practical difficulty arises in the case of interstate communication by land. I have no doubt of the right of Congress to establish quarantine regulations which shall affect all railroads carrying passengers or freight from one State to another, just as by the interstate commerce acts Congress has assumed jurisdiction over the railroads with regard to rates,

etc. As practically all railroads do an interstate business, directly or indirectly, by carrying passengers and freight in transit from one State to another, quarantine regulations could, therefore, be established over practically all railroads in the United States. Such a system of railroad quarantine would necessitate and would authorize the establishment of a United States quarantine station in the principal commercial city of every State in the Union, and this quarantine station could, it seems to me, effectively control the quarantine regulations of the entire State, co-operating, of course, with the local authorities as far as practicable. I do not see why a system could not be worked out on this line which would be efficient and satisfactory.

As to the desirability of a national quarantine, it seems to me there can be no serious room for discussion. Conceding the right of the government to interfere with the liberty of the citizen and with his rights of property, so far as may be necessary for the protection of the public health, the only question is, whether it is more expedient that this right should be exercised by the local government or by the State government, than by the general government? It seems to me that a uniform system administered by national officers is the only safe and rational method of administering this branch of government. Of course, the tremendous powers imposed upon quarantine officers are open to abuse, but such abuse by national officers would have a wider publicity and be subject to more direct remedial legislation than would the petty tyranny of local officers, especially where the sufferers from such tyranny would usually be non-residents of the locality where the officers exercise their authority. As quarantine is of necessity an interference with commerce, it seems to me that it is peculiarly a matter within the province of federal legislation.

Trusting that I have sufficiently answered your inquiries, I remain yours very truly, W. B. HORNBLOWER.

Perhaps nothing marks the progress of modern civilization with more precision than the improvements in preventive medicine and hygiene. If we teach our people the value of these improvements they will demand that their legislators give them the benefit of them, and every true citizen of our country will welcome and promote the best possible system of quarantine.

Thomas Jefferson, then President, in a communication to Congress on the state of the Union in 1804, protested against the adoption of a code of laws to prevent the introduction of yellow fever. Our people have learned a great deal since 1804, and the response which they would make to such a protest by their President today would clearly indicate it. When they know what science can do to exclude and prevent disease they will be wise enough to unite in a determined and persistent effort—each for all and all for each—to secure every advantage it can confer, and will demand that safety and not sentiment shall decide and govern all that pertains to quarantine.

Dr. BAT SMITH of Texas said that Texas wanted to place herself on record as desiring to police her own borders. She has the men and she has the means. She is willing to meet the Marine-Hospital Service half way, but she does not want federal interference and is not going to stand it.

A DELEGATE—Did not the Governor of Texas ask the aid of the federal government to stamp out smallpox at Eagle Pass?

Dr. SMITH—Who was Governor?

THE DELEGATE—Governor Hogg.

Dr. SMITH—Oh, he was not responsible.

Hon. W. A. KAY of Georgia also spoke on the subject. He said the legislature of Georgia called on the federal government because they recognized it was a condition that Georgia and her sister States could not meet. You may pooh-pooh shotgun quarantine, but you must have a stronger power to put it down. He favored going to the general government to get the assistance so badly needed.

Mr. JOHN B. KNOX of Anniston spoke as follows:

Mr. Chairman: I had not intended to take any part in the discussion of the topic now before the convention, but since hearing the elaborate written argument against the constitutionality of the proposed legislation by the federal government on this subject, I feel impelled to say something upon the legal question involved.

I was surprised to hear it asserted by the honorable gentleman (Mr. Farrar) that the federal government as now administered is not a government by the people, and that the only government where the voice of the people is recognized is the government by the States.

Mr. Chairman, I do not sympathize with this effort to excite the prejudice of this convention against the national government. I have always been taught to believe that the system of government under which we live is the best ever conceived. It was the product to a large extent of Southern intellect and Southern statesmanship. In its conception and development the country had the benefit of the wisdom, experience and intellect of Madison, Jefferson, Washington, Henry and a host of others, who labored together to perfect the finest system of popular government that the world ever saw, and I think that no prejudice against our form of government can be aroused before a Southern audience by any attack upon the wisdom of the fathers in its formation.

Mr. Chairman, the constitution of the United States invests the national government with the absolute power to regulate commerce between the States and with foreign nations. This power is granted to the general government by the States. It is not granted with any proviso that it shall not be so exercised as to conflict with the police regulations of the States, and to become inoperative when it does; but it is absolute and imperative, and when properly exercised the powers of the States, so far as their police regulations are concerned, must give way.

I will not discuss the proposition that the State quarantines, not to say the shotgun quarantines in force in several of the Southern states during the year 1897, interfered with interstate commerce. To a large extent everybody knows that it not only interfered with interstate commerce, but absolutely destroyed it.

The honorable gentleman from Louisiana (Mr. Farrar) refers to two decisions of the supreme court of the United States which he condemns in the most intemperate terms. I listened with great interest to the reading of his paper and I failed to hear any opinion, or, if you please, any dictum, from the supreme court of the United States or any other court to the effect that the federal government had not the power to enact a general quarantine law.

On the contrary, I beg to call your attention to two decisions of that court, which seem to hold directly to the opposite.

The honorable gentleman contended before us with great earnestness that the federal government could only act in aid of the State government. My understanding of the law is just the reverse. Where the federal government has jurisdiction and it has been actually exercised, it is supreme and not subservient to the State regulations.

In the leading case of Peete vs. Morgan (19 U. S., 581) the supreme court of the United States, in passing upon the validity of State quarantine regulations, says: "They are enacted for the sole purpose of preserving the public health and if they injuriously affect commerce Congress, under the power to regulate it, may control them."

And again in a still later case, Morgan Steamship Company vs., Louisiana (118 U. S., 465), Mr. Justice Miller speaking for the court says: "Whenever Congress shall undertake to provide a general system of quarantine, all the State laws inconsistent with said enactment will be abrogated, but until this is done the laws of the State on the subject are valid."

The honorable gentleman from Louisiana (Mr. Farrar) does not attempt to answer these decisions. He says of the first that it is mere "judicial slop," and of the other, that it is mere "judicial gush." Mr. Chairman, both of these cases are announced as the opinion of the court, and the second opinion was delivered by (Mr. Justice Miller) one of the ablest judges who has sat upon that bench. And I submit, therefore, that the effect of these decisions is not to be destroyed, either by abuse of the court, or by the contempt expressed by the learned gentleman for the justices who wrote the opinions. And I may say, in conclusion, Mr. Chairman, that the question of the constitutionality of a federal quarantine law has recently received very careful consideration from a committee of the United States Senate, upon which were some of the best lawyers in the Senate, and a report was made, practically unanimous, sustaining the constitutionality of the proposed legislation.

Mr. NORMAN WALKER of New Orleans, cited the report of the committee referred to by Mr. Knox.

Dr. ROBBINS of Vicksburg, Miss., said that the sentiments expressed against the General Government found no lodgment in the hearts of the people of Mississippi. They had seen the States utterly powerless to protect their citizens, and he for one had come here to appeal to the General Government to do that which the States are powerless to do.

Mayor COLLIER of Atlanta, protested against the sentiments expressed against the General Government, which he said is "my country." He said that he read of one board of health in Alabama which by a vote of four to three refused to admit ice, and another a carboy of carbolic acid. He said the system of quarantine in vogue last summer was a disgrace to civilization.

Mr. FARRAR replied and said he never denied the right of the Federal Government to pass quarantine laws such as Mr. Clarke cited. He replied briefly and pointedly to the arguments put forward by the other speakers and showed his familiarity of the legal aspect of the State and Federal Government.

Hon. HANNIS TAYLOR spoke upon the subject and said that the State quarantines had been broken down and routed and in Louisiana the Board of Health run out of office by an indignant people. He argued that the power to enact quarantine laws was reposed in Congress and said that the question was how best to formulate a law that would meet the desired end and at the same time reserve to both the State and Federal Governments their legitimate powers.

Dr. SANDERS protested against Mr. Taylor's statement that State quarantines had been a failure.

Mr. TAYLOR said he did not mean the remark in that light. He meant that the boards of health as a whole had been routed.

Dr. SANDERS, continuing, defended the boards of health.

Dr. ROBBINS, of Mississippi, asked if the people did not set at defiance the State boards of health. He said that such was the case in his State.

Mr. KNOWLES, of Atlanta, offered a resolution as follows:

WHEREAS, The experience of last year during the prevalence of yellow fever was sufficient to demonstrate the inefficiency of State, county and municipal quarantine regulations, as well as the resultant disastrous effect on commerce, travel, and the public comfort and safety; therefore, it is the sense of the convention that congress should enact such legislation as will result in the establishment of a national uniform system of quarantine with due regard to the rights of the various States.

It is not the purpose of this convention to endorse any plan, system or legislation now proposed, but simply to place on record its belief in the necessity for uniformity and such enforcement as is only possible under national supervision, leaving the plan and its details to our representatives in congress.

Dr. HORLBECK, of South Carolina, protested against the criticism against State boards, and said that the Board of his State had kept the disease out of that State through several epidemics. He thought they ought to find out all about the disease. There are plenty of laws about quarantine, and all they need is to be enforced.

Mr. E. L. RUSSELL cited the practical experience in the management of the Mobile & Ohio railroad during the recent yellow fever, stating that the receipts for the three months exceeded any similar period in the history of the road; that no case of fever was carried beyond Whistler, showing that, with harmony, the States could manage affairs themselves.

Ex Lieutenant Governor SHAND, of Mississippi, defended the State Board of Health of Mississippi.

Dr. ROBBINS asked if members of the board had not continued to proclaim to the world that the fever at Ocean Springs was dengue.

Dr. HARALSON replied and stated what took place at Ocean Springs relative to the disease there.

The chair called the speakers to order time and again, saying this was no debating society for the adjustment of personal questions.

President T. G. BUSH, of the Mobile & Birmingham railroad, gave his experience in the running of that road. He said he had to deal with the board of health of Dallas. The first thing they did was to cut off thirty-two miles of his road, declaring that everything that passed over the line into Clarke county was infected and could not come back. Fumigation was no good.

Hon. R. H. CLARKE said that if the State of Alabama would appropriate money enough to run the quarantine plant at Fort Morgan he would be satisfied to have the present board conduct that quarantine.

A telegram of greeting from the Tennessee Board of Health and promising co-operation was read.

(To be continued.)

New Jersey State Sanitary Association.

The meeting of this Association was held at Lakewood, Dec. 10, 1897. The President, Mr. JAMES OWEN, C.E., of Montclair, called the members to order at 3 P.M.

Dr. JOSEPH W. STICKLER of Orange, Chairman of the Committee on Inspection of Factories, read his report.

He inspected the factories of Orange, Newark and Paterson and, as a result, suggested these points to be borne in mind in such work: Site, drainage, condition of cellars; are rooms occupied day and night; are rooms overcrowded; ventilation; plumbing; condition of cesspools and water-closets; cisterns, size and condition; condition of drinking water; temperature of working rooms; condition of the atmosphere in rooms; clothing worn by operatives; environments; subsoil; wells, their condition; height of ceilings; sanitary defects around the factory; food and drink of operatives; amount of rest allowed employes; personal habits of operatives; the state of the nutrition and general health of the operatives. Dr. Benjamin of Jersey City, and Dr. Braymer of Camden and Dr. Baldwin of Newark inspected the factories of their respective cities and concur with me as to the importance of paying special attention to the above points, and also that many of the buildings are in good sanitary condition, others are in an insanitary state.

A careful consideration of the factory laws, etc., can not fail to convince one of the fact that ample provision has been made for the safety and health of those who work there. If clause x of supplement to an act entitled "A general act relating to factories and work shops, and the employment, safety, health and work hours of operatives, approved April 7, 1885, were the only legal enactment appearing on the pages of the statute book and were faithfully and conscientiously carried into effect in every instance by the inspectors appointed by the State, no factory within the borders would be likely to be justly criticised. It is fair to say that we found many of the factories in the best condition, but some indicated that the inspectors must have failed to carry out their instructions. In either case there is good ground for adverse criticism. Dr. Torrop of England says: "Factory work is not so excessively laborious; it is the heat, impurity, and dust-laden atmosphere that injures health. The promising child of ten degenerates into the lean and sallow person of thirteen and this process is continued until a whole population has been stunted, and thus factory life becomes a source of danger to the future of England. In addition to the loss of physique, it is instructive to note the deterioration of personal appearance. Out of 2000 children under notice, only sixteen could be described as handsome, and of those the larger proportion were girls from Ireland." It seems to me that what is true of England must be equally true of America. For this reason inspectors should be careful to enforce the laws for the protection of factory employes. Inspectors should be men who understand the effects of any given employment upon the health of those engaged in it, and to this end it is essential to understand the conditions and circumstances connected with it, and these are found to be almost as numerous as the occupations themselves (Arlidge). Again, it should be known that hereditary influence as an accidental condition, coupled with the social status of an employment, has a tendency to perpetuate physical defects and disorders engendered by the occupation (Arlidge). "Another fact is that large wages have to be given in various offensive, unhealthy and dangerous trades; and as may be supposed the workmen attracted to them belong chiefly to the reckless class, broken-down characters in the lower stratum of society who are willing to lead a short and merry life."

Experience has shown to this grade of laborers that the obnoxious work they carry on, plus the possession of means for self-indulgence, operates as an inducement to intemperance, vicious habits, neglect of home cleanliness, comfort and health. Again, season trades are fluctuating; periods of active operation are followed by stagnation. It is manifest that this must affect, deleteriously, the health of the employed. It should also be understood that an insistence upon sanitation in factories means the protection of the workman; and that means one way of removing the antagonism between capital and labor. Dr. Guy, in making an analysis of the official monthly tables to discover the "influence of employments upon health," made the following statements: "The ratio of cases of pulmonary consumption to other diseases is highest where the amount of exertion is least, and lowest where it is highest; and the intermediate degree of exertion presents an intermediate ratio. The age at which consumption makes its attack is earlier in employments requiring little exertion than in those requiring more, and in those requiring moderate exertion than in those demanding a great effort. The average of deaths is lowest where there is least exertion, but highest where the exertion is intermediate between the extremes. The class of outdoor occupations requiring moderate exertion presents a higher percentage proportion of deaths under 40, and a corresponding loss of young men. Sedentary employments and those requiring little exertion are more unfavorable to adult and middle life, but more favorable to old age; on the other hand employments requiring great exertion are unfavorable to youth and longevity, but favorable to middle age. Employments with little exertion prove fatal by inducing an excess of consumption early in life; those requiring great exertion by occasioning other diseases of the air-passages and lungs, toward the commencement of old age."

Dr. Greenhow sums up: In proportion as the male and female population are severally attracted to indoor branches of industry, in such proportion, other things being equal, their respective death rates by phthisis are increased. Racial peculiarities have much to do with the effect of labor on health. Attention has been called to the fact that an occupation or a manufactory recruited with Celtic Irish workers may be expected to have a higher rate of mortality than would obtain if

Anglo-Saxon workers are employed. These matters should engage the attention of the men whose duty it is to inspect the factories of our State. When we are reminded that in the factories of New Jersey today, 50,848 persons are working, and that the health of this large army actually depends upon the well-directed efforts of our State factory inspectors, and upon wise and comprehensive legislation, I think you all will agree that our time has been well spent. No man who is unfaithful or limited in his knowledge in this line of work has any right to be found therein. Any man who seeks the position of factory inspector simply because it pays a fair annual salary is little less than criminal in spirit; and any owner of a factory who, after being instructed as to what he ought to do to make his particular trade, buildings and premises as healthful as possible, fails to do so, is guilty of culpable negligence. It should be remembered that operatives form an important part, social and political, of the population of this great country. They are important citizens with all the rights which belong to men and women who live under the protection of the grand old ensign of this glorious republic. Let us, therefore, consider their preservation from disease and injury while contributing to the industrial pre-eminence of our Nation, honored in every clime under the sun, because of the security afforded its children, not only their inherited rights because of citizenship, but a endorsed by the law of God, and the generous spirit of a just and common humanity.

Dr. J. R. LEAL of Paterson, said the report virtually admitted that we are compelled to have sanitation by the labor organizations. If the law was enforced the factories would be perfect. If the inspectors did their duty, there would be nothing for this society to do. It would appear that the sanitary condition as a whole was better than that of the homes.

Dr. HENRY MITCHELL, Secretary of the State Board of Health, said the inspector has powers and can demand changes that he may deem proper. The local boards should attend to the execution of the laws.

Dr. JAMES A. EXTON of Arlington read the report on "Improvement of Sanitary Administration in Townships." The object of appointing the committee was to secure legislation. To this end they secured the introduction of a supplement to the Act to establish Boards of Health, asking for sanitary inspection, the appointment of a State Board of Examiners whose certificates should be an assurance of eligibility of the applicant to appointment as sanitary inspector. This was known as the Wildman Bill; it passed both houses of the legislature, but was vetoed by the Governor. All believed this to be a proper bill, and with the changes recommended by the Governor in his veto will be carried through the coming year, and hence the committee asked to be continued in order to push it. This was granted.

Mr. M. O. LEIGHTON of Montclair read a paper on

VICISSITUDES OF HEALTH INSPECTORS.

He said that trouble begins at once after the accession of the inspector to office, and multiplies. He is well abused. In the milk inspection he worked personally; supervised the analysis of the milk, the bacteriologic department and the inspection of the dairies. In cases of contagious disease he studied the source of infection, superintended the disposal of ashes and garbage, as also the plumbing. To these duties he added the examination of nuisances and a number of other matters. Complaints give a ludicrous series of pictures from noisy cows to vicious dogs, troublesome geese, leaky roofs and neighborhood quarrels. He is sure to make enemies unless he is extremely fortunate. A gentleman brings a bottle of water, shall we drink this? One must labor with him, pacify him; make him know that it is not necessarily baneful, even if it is muddy. He departs and talks learnedly of bacteria and albuminoid ammonia for a week. The next knows all about disease germs from the newspapers; boils his water and milk; suspects an epidemic in every dust cloud; diphtheria has broken out in his block, wants to know if it will be better to move away to his summer home till the case is well. Nothing but intelligent reasoning will do with him. He is shown the fact that there is no danger to his family, that the case is well isolated, can not extend, and to move may be a change for the worse. The next has no complaint nor quarrel with her neighbors, but wishes to inform the health board that so and so exists in such a place, but does not wish her name to be mentioned. Now, in nine out of ten such cases there is no cause for complaint. The next desires information as to the general health of the place, what contagious diseases exist. Such a visit is pleasant, and the inspector wants more of such. In the eyes of the citizen the health inspector occupies a peculiar position. The laws have invested him with powers so extensive and so useful that it is well to know him. In order to be of service in the most efficient manner, he is confronted with many ideas as to what is best to do in each case. He must not believe in a weakened policy, nor advocate a two-faced principle. He must reach the same end by paths which conform to the idiosyncrasies of those with whom he has to deal. Tact, honest old-fashioned tact is needed, if the health officer wishes to obtain the best results. An old friend at the outset of the speaker's career said "Remember one catches more flies with molasses than with vinegar." Again, he must fancy the feelings of those who believe their house is their castle and have him come in and tell that man his property is a nuisance. If he becomes offensive to the neighbors, a change must be made. Probably this man has had all this for twenty-five years, and all thrived with it, hence he is not willing to recognize any demand for a change. There is contagious disease in his family, his house is placarded, the family quarantined, and they can not mingle with the rest freely as formerly; all this provokes opposition, and needs the greatest care in its doing. All must be done in accordance with the most approved principles as to modern science, thus to produce the greatest amount of good, and must be carefully fitted to each case. In regard to the milk supply, he visits the dairy, inquires as to the cleaning of the cows, the stables, the hands of the milkers and the other hygienic needs, then as to the cooling of the milk, the cleansing of the bottles and multitudinous points. Think of the difficulties met with. This is nothing beside the problem of teaching the ordinary dairyman a few facts about biology of milk. He listens to the discussion of the bacterial action in souring milk, cooling quickly to stop the growth of the bacteria, cleanliness to prevent bacteria getting into the milk; a few call it bosh, or stare in open-mouthed wonder. One accepted all and fixed his place as required; one day he came in and said he should add a cream separator to his dairy, it was a bad plan to set pans of milk in the open air, lest a lot of bacteria should get in and do harm with their dirty feet. After the inspector had recovered he determined not to discuss the bacterial problem with a dairyman. The municipal government has trouble with the health officer. The police station is often offensive, the lavatories are unwashed for a long time; the garbage is not collected properly, even decently. In the report of the State Board of Health, you will find town after town show the same thing. You generally find swine feeding on offensive filth thrown out from a town, the garbage being disposed of just outside the town. These hogs are then brought to market as food for the citizens, and the inspector has to view this prospect and see his progressive people feeding on the unpurified product of their own garbage. It seems that the board of health stands idly by and sees the reeking offal of its municipality going to produce pork for human consumption. Thus it falls far short of the ideal for which it was created, and fails to be worthy of the principles by which it is governed.

Another point full of anxiety is his relations with his brother doctors. What is worse in any department of life than a careless inconsiderate person who is supposed to know the value of certain systems, and yet goes always as far as he dares in the wrong direction? I of course do not intend to include all doctors in this class, yet there are a few in each district. I have seen a doctor attend a patient in the desquamative stage of scarlet fever, and go to the bedside of a little sufferer weak and emaciated from fermental diarrhea. There will come a time when the general public will be sufficiently educated in public sanitation and the whole function of the board of health will be to keep in line those doctors who need to be looked after.

Finally, he mentioned the vicissitudes arising from his relations to women. To his mind this presents the widest variety of situations. It is the hardest kind of a problem, yet withal some of the most pleasant and profitable of that official's experiences. The "peculiar odor woman" sends a note desiring him to call at once. He puts off other and more important matters, hurries to the house when she tells him of a mysterious odor, and every one has the same tone and words. He spends hours in searching out the odor, she follows, rejoicing at every insanitary discovery. Should the sanitary condition happen to be perfect, no source of odor be found, he leaves that house having lost his reputation as an expert. In nearly every case, there is no cause apparent. Happily, few houses approximate the ideal, so he generally finds a few changes to recommend. So, he goes from disease to sewers, from sewers to milk, from milk to nuisances, till at the close of the day he leaves work unfinished and goes hoping he will be a long time dead.

In the discussion that followed, the speakers endorsed and enlarged upon the matters mentioned, and it was advocated that a plan be adopted, of adding a class to the colleges similar

to that at the Massachusetts Institute of Technology, from which Mr. Leighton graduated.

In the evening, the president, JAMES OWEN, C.E., delivered the Annual Address. His subject was

THE STATE OF NEW JERSEY AS A HEALTH RESORT.

In reviewing the conditions that make such a claim tenable, certain interesting facts and figures present themselves. To thoroughly appreciate the question, the axioms of the relation of man to his environments must be accepted and, in the effect of climate on humanity, it must be conceded that in certain regions of the earth's surface, human life is an impossibility save for limited period and confined to the individual; that in more favorable regions certain selected specimens can be developed but with little power of increase; that in still more favorable localities a large population can live, reproduce themselves, but of an adapted type; that with favorable environments men will increase faster than the capacity of such environment to furnish a living, the resultant is the tendency to migrate which is only restricted by physical obstacles or repressive customs; that the migration of the individual from the region to which he and his kind are especially adapted, as a rule acts detrimentally on his physique unless the climatic conditions of the new location are almost exactly similar to the original. This deterioration of the physique may not be developed in the individual but will in his progeny, till acclimatization perfectly ensues; that there is an inherent tendency in the physical organization of man to adapt itself to new conditions. It is a slow process, and may take three or four generations to arrive at a perfect organism. It must also be remembered that the so called salubrious climate does not develop the highest type of physical manhood; such type is generally achieved under harsh conditions. All these assertions are based upon the inherent physical tendencies and growth which are universal on every part of the earth's surface. In addition to that is the effect of mental effort on environments, and here a line of demarcation is found to physical development on climatic lines, which is hazy and indistinct, but that certain races make no attempt to improve their physical surroundings, and that other races are continuously bettering them by intellectual effort and actual manual work, is patent to all. The North American Indian from prehistoric time made no effort to change the physical condition of this country; yet within a century, the mental and corporal activity of the white race has practically changed the face of this whole continent and an appreciable portion of this activity has been on lines of what may be called sanitary improvement, showing that the effect of the intellect is to adapt the surroundings to man instead of man to his surroundings. This alternative gives the immense scope for sanitary work in all its ramifications; but one prominent factor must always be considered, and it is that the basis of all sanitary effort on the individual and his environments is the natural climate of the district in which he lives, and the climatic conditions must be distinguished as general or specific.

The general character of a climate in any locality is a natural condition that no particular effort of man can modify. Specific conditions can be changed by human effort, according to his mental acumen and physical energy. Adapting the foregoing principles to our State what do we find? 1. The aboriginal with a physical development adapted to the surroundings, with small power of increase and an utter inability to improve his conditions. This continued till within about 250 years, when the migration began and this has been kept up continuously. During that period, it has been proved that the general climatic condition of the State is positively favorable to both in the development of physique and in power of increase. As the earlier settlements were made on selected territory, the necessity for modifying specific climatic conditions was not apparent, but as population increased, the insalubrious localities were improved and changed till today a very small portion of the State can be considered uninhabitable from natural causes. The growth of the population of the State may be divided into three periods: That from the early settlement to the construction of steam railroads; this growth was mainly agricultural and with a very small urban population. From 1840 the growth of railroads stimulated the business activity of the State and then began the large increase of urban population till about 1865 the suburban or residential accretion began, and which now forms such an important section of the Commonwealth. It must be noted that the governing impulse of all migration up to 1865 was that of gaining a livelihood in the locality and in the State; since then, the motive has been largely for residential purposes and the paramount influence for a migration is the sanitary character of the locality. In 1737 the population was 47,369; 1840, 373,206; 1865, 773,700; 1895, 1,673,106. An analysis of this growth must be considered in the broad distinction as urban, suburban, rural, and, taking from the whole State the counties of Hudson, Bergen, Essex, Passaic, Mercer, Camden and Union, as those that are urban or suburban, the rest as rural, the division of the population on those lines would show: 1737, urban, 11,164; rural, 36,265; percentage of urban to rural, 23.4; 1840, urban, 125,-563; rural, 247,743; per cent., 33.6; 1865, urban, 387.104; rural, 386,596; per cent., 50; 1895, urban, 1,109,768; rural, 563,438; per cent., 66. In the year 1737 the proportion is vague; on the other hand, in 1895, there are counties like Morris, Middlesex and Monmouth that have acquired a large urban and suburban population, so probably the percentage would be nearer the truth as 70, than 66 as above. Assuming this, it is desirable to ascertain what proportion of the population is, in using this State for residential purposes alone, with no business ties, governed solely in their selection of a home by convenience and sanitary surrounding and are generally known as the commuters. In this class we must collate all dependent upon the commuter and his family, located merely to supply his wants, and who leaves if he leaves. It is safe to say that every man who comes to New Jersey to settle in a suburban home with his family, has another who has come to supply his wants. There are many towns and villages in the northeastern part of the State, and also in the southwestern part, that have no other cause of existence than the suburban resident, and on the sanitary condition of these towns, cities, etc., depends their vitality and existence. In addition, there is the temporary accretion during the summer months, and this is due entirely to sanitary and climatic conditions, namely, those who crowd the seaside resorts and who are also scattered over the rural and mountainous section of the State. To determine accurately the proportion of the population that is purely residential in proportion to the whole number is a matter of difficulty, as intermingled with it in some places are industrial pursuits that make it difficult to segregate one from the other, and many of the cities, as Newark, Jersey City, Hoboken, Paterson, Camden, have a large number who do business in other places, but prefer this State as a residence, and their number is greater than is usually expected. Information gathered from the railroads as to the commuters is only partial. The Erie R. R. has 20,000 a day; the D. L. & W., 15,000. Passengers crossing the North River in 1886 were 58,894,000; in 1890, 72,260,000; in 1900 it is estimated at 100,000,000, of which 50,000,000 will be from Hoboken, Jersey City and Newark, 38,000,000 from other towns, and 12,000,000 from a distance of thirty miles. Assuming at present 90,000,000 a year, deduct for Sundays, etc., would give a daily average of 128,000 to and from. Allow half as regular commuters and we have 65,000. Taking the basis of commuters on the D. L. & W. to population, the proportion of immediate dependent inhabitants to commuters as 6 to 1, we have a population in northern New Jersey of 400,000 as purely resident; in addition, 50,000 more can be counted in the southern part adjacent to Philadelphia. Assuming, as approximately correct, 250,000 the visiting population in the summer, we have 700,000 people who have no stronger tie than sanitary condition and therefore the greater *onus* on the varying State and local authorities to preserve the good reputation for climatic and topographic excellencies. Curiously enough, the State has been a byword in the country at large for bad climate and unsatisfactory conditions. Malaria and mosquitoes have been synonymous with New Jersey, and to have lived such a reputation down, and to be the State *par excellence* for location on pure sanitary lines, show that mental effort has been joined with natural conditions to achieve such a result, and that brings us to the culminating axiom of sanitary laws, that the tendency of congestive humanity is to destroy itself, unless intelligence and energy are combined to offset such disasters. This combination of intelligence with energy is classified as sanitation. In no State in the Union is this more strictly demanded than with us, and to have proper sanitation, intelligent supervision is demanded and a conscientious obedience to such a supervision by the committee at large is absolutely essential. No more intelligent understanding of the sanitary condition of any locality can be arrived at than by studying the death rate, and I have worked out the rate for the different towns, etc., for the last five years. A synopsis will probably be interesting. A criticism may be raised that five years is too short for a proper conception of death rate, but two facts may be submitted: In the last five years the returns have been more accurate, and the death rate is decreasing so rapidly, that averages for ten years would give a wrong impression.

He gave the rate for nine agricultural counties as 14.6 per thousand of population; of eight surburban counties as 17.8; of seven urban counties as 20.1; of four seaside counties as 16.3; the death rate in the seaside counties conveys a false

impression, as all the deaths are given, including non-residents, while the ratio is on the actual population. Sussex, in the mountains, has the lowest, as might be expected. Salem next, is on the borders of the river with no high land but a loamy sandy soil. Hudson is the highest, due to a congested population and lack of sanitation. Curiously, the rate of the suburban sections is not much greater than the rural rate. Ten years ago it was much higher. The improved rate is due to better conditions. The suburban sections with cities eliminated show the effect of specific conditions and how important to neutralize congestion by care and watchfulness. Essex county is 21.2; without the city of Newark, it is 15. In basing an estimate of the sanitary condition it is proper to assume an ideal rate and criticize any departure, so we find three towns in Hunterdon County with a rate of 10; so with several other counties. Yet it would not be safe to assume 10 as the ideal, for in most counties with low rates the population is decreasing and children are few. Hence complete sanitation and proper climatic conditions will concede a rate of 13, and that is about the average of the purely rural section where there is no congestion, pure air and water are available with little care and with the practice of the ordinary ideas of cleanliness.

In the urban and suburban sections different conditions prevail, and here sanitation comes into play. Proper drainage, pure water, complete sewerage, removal of garbage and of ground water are essentials of a low rate, and in Essex County we find East Orange with a population 18,000, death rate of 12; Montclair 14; Bloomfield 13.6; West Orange and South Orange, pure water, no sewerage 13.5 and 12.9. This rate of 13 can be achieved and should be the desideratum, and all in authority in the State should examine their locality and find the cause, if more than that. The science of sanitation is now crystallized into a practical profession. In all works of this character there are two factors, the individual and the community; thus if a town puts in a system of sewerage and the individual adjusts his property to it they are in accord. These factors have both to be educated but in different lines. Sometimes the individual is willing and the community not; and *vice versa*. We need here education and legislation, and I think the State has done its duty in that line. The State Board of Health, under its former secretary, Dr. Ezra M. Hunt, and its present efficient one, Dr. Henry Mitchell, laid down lines of procedure in sanitation for this State, first to educate the people to the necessities for more care for their health, and then to pass laws to enable them to take that care. Probably with the exception of the State of Massachusetts our State has the most complete sanitary legislation extant, and its full adoption would bring the death rate well toward the ideal of 13, and only the neglect of individuals and communities allow it to stand at 20 and 23 as it does some places. Provision is made for health boards of all kinds. Every municipality has power to get good water and sewerage, collect garbage, regulate plumbing and insure unadulterated food. Forty-eight towns and cities have systems of sewerage accommodating a population of over 1,200,000; probably the dwellings of 750,000 are sewered, fifty have waterworks supplying good water. In many places drainage systems are perfect, and in all the large cities supervision is exercised over the house construction and plumbing. The effect of this Association is not confined to this room, hence my detailing these matters at the risk of being tedious. Twenty-five years ago I had the privilege of being associated with Dr. Sandford B. Hunt, the father of the Commissioner of Passaic Valley Sewerage, who is with us tonight, in sending out notices for the first meeting of this Association held in Newark. The meeting was large and enthusiastic and thence originated all the sanitary work of the State. Then the State Board was organized and both organizations have forwarded the great work; coupled with this is the great progress in medical science, and as an engineer I am not able to outline the details of this growth; yet I will allude to the desideratum in sanitation, that the doctor and the engineer should travel in the path of progress hand in hand, one to exercise his power to prevent disease the other to eliminate it.

DISPOSAL OF GARBAGE.

Mr. RUDOLPH HERRING, C. E., of New York, then spoke upon the "Disposal of Garbage." In Europe cremation is generally the plan by which to get rid of the garbage. In this country we have a variety of ways. Garbage is kitchen slop, ashes, dust of the streets, in fact all refuse save that in the cesspools. In some places cremation gives good results. Some report this plan as more valuable and less expensive. Some separate the slops from the rest and feed it to animals. The special objection is that it is apt to ferment and become most offensive and also prove injurious to the animals. Economy is demanded in the disposal of the garbage. Cremation is objected to because it generally proves a nuisance by the odor given forth in the process. Hamburg uses cremation and finds it very satisfactory. They show that it need not be conducted so as to be a nuisance. The products are regarded as an excellent fertilizer. At present the question is as to the cost before any plan is adopted. Usually the cheapest plan is adopted. Boston is now about to adopt cremation. In case of an epidemic cremation is the safest plan. Brooklyn and New York now use the reduction plan. This disposes of the refuse of the house only, while cremation must follow for the rest. Too often these matters are decided by political influence, not according to what is proper or best. In conclusion he said cremation is always the best for sanitary purposes and from an economic point of view.

Mr. M. N. BAKER, C. E., of the Upper Montclair, agreed most heartily with all the speaker had said, unless it might be that one or two points of minor importance were open to discussion. In his own household he had found no difficulty in disposing of all the garbage by burning it in the kitchen range. This he considered preferable to having an odorous receptacle standing about. The plan is not practical, however, unless given personal attention by some one other than the ordinary servant. It never will become the universal method of disposing of garbage. Plants for the disposal of garbage have proved failures, which is largely due to the fact that the garbage-disposal problem is not approached by most citizens in a scientific manner. If a sewage or water purification plant is to be built, an engineer of good standing is called in to aid in the undertaking. But when a city finds it necessary to make some change in its method of garbage disposal, instead of employing an engineer to outline a plan best suited to the needs of a city, a committee of the city council sets forth on a visiting trip to garbage plants and is very likely to come back most impressed with that system of disposal the commercial agent of which talked the smoothest or made the best impression by whatever means. The questions involved in garbage disposal are scientific ones and should be studied in a scientific manner. If cremation is to be employed it is a question of how many heat units will be required and how they can be generated and applied to the best advantage. If a reduction process is to be installed, machinery will be needed to secure the grease and fertilizing material. In either process the questions arising are best answered by the engineer rather than the layman; in fact the layman can not answer them. One reason for the high prices for garbage disposal prevailing in most cities where the work is done by private parties is the short term of the contract. Contractors are forced to provide expensive plants and are then limited to one-year contracts. They know the job may go to some one else at the end of the period, and hence must bid enough to cover the risk. The lesson from this is either to make the contract longer or have the work done by the municipality. In the collection of garbage he said, experience shows that but a small proportion of the population is served when the work is entrusted to private scavengers instead of having a general public service, either by the city or by contractors paid by the city.

(To be continued.)

SELECTIONS.

Perforation of a Gastric Ulcer into the Pericardium.—Mr. Collingwood Fenwick has reported in the London *Lancet* for August 14 a case of the above rare accident, as follows: On July 30 I was summoned to attend a man who had been taken suddenly ill. Arriving at his house three minutes after receiving the summons, I found him lying dead on a garden chair. The history I obtained from the widow was as follows: Her husband's age was 55 years, and until recent years he had been a builder. On the day of his decease he returned home from a walk, but made no complaint and appeared to be in his usual health. He had never complained of pain after food, or suffered from vomiting or any other symptom of gastric disease. Immediately on finishing his meal, which consisted of tea, fish, and bread and butter, he rose from the table complaining of pain and palpitation. After walking a few yards he sat down, and his wife, noticing that he looked very pale, administered some whisky and water, but he expired in about a minute.

Necropsy.—The results of the postmortem examination, made twelve hours after death, were as follows: The body was that of a stout elderly man. The lungs were emphysema-

tous, the right lung being bound to the chest wall by strong pleuritic adhesions. The pericardium was found to contain several ounces of tea, which smelled of whisky, and some particles of fish. On the lower surface of the pericardium a small aperture was discovered, admitting a stout probe, which was passed downward through the diaphragm into the abdominal cavity. The heart itself weighed thirteen ounces and was extensively infiltrated with fat; the valves were normal. The anterior surface of the stomach was found to be firmly adherent to the under surface of the diaphragm, and on opening the viscus a chronic ulcer the size of a shilling, with indurated edges, was seen to be situated about the center of the lesser curvature. From the base of the ulcer a sinuous track led upward, and to the right, through the substance of the pericardium. The stomach contained fourteen ounces of undigested material, composed of tea, fish and sodden bread. All the other organs were apparently healthy.

In a later issue of the *Lancet*, an editorial writer offers the following instructive comments upon the case. The probability of a gastric ulcer perforating the wall of the stomach depends chiefly on its situation. An ulcer on the anterior surface of the stomach will almost certainly lead to perforation if the ulcerative process continues; but should the ulcer be situated on the posterior wall adhesions form very readily, so that the stomach becomes adherent to the diaphragm or to the left lobe of the liver, but the diaphragm itself may become perforated by an extension of the ulceration, and then the ulcer may open in the left pleural cavity or into the pericardium. Perforation of the diaphragm by gastric ulcer is decidedly a rare occurrence, and even when it does occur the pleura is much more frequently affected than the pericardium. Of twenty-eight cases of perforation of the diaphragm by gastric ulcers, collected by Ludwig Pick, only ten were cases in which the ulceration had perforated the pericardium. In an earlier issue is recorded a very interesting case which occurred in the practice of Mr. Fenwick, in which a gastric ulcer had perforated the pericardium with an immediately fatal result, and yet no previous symptoms had occurred to point to the presence of the gastric ulcer. In four of the ten cases collected by Pick the two surfaces of the pericardium had become adherent before the ulceration had perforated, so that the ulcerative process involved the substance of the heart itself.

The Period at Which Old Age Begins.—Dr. Leake, in the *Medical Examiner*, argues that age sets in indefinitely when the forces of life begin to flag. Some men are twenty years younger physically and mentally than other men of the same age. It is self-evident then, that old age does not begin at any set time, so far as the divisions of time divide the periods of life, but that it has to do with that subtle agent known as the vital force, an acquaintance with which enables the analytical mind to become proficient in prognosis by weighing in the balance the vitality on the one side with the pathology on the other. Insurance companies say that a man over 60 years of age is not incurable. The truth is, many men under that age are insured and prove less profitable risks than many men would be over that age for reasons stated above. A more equable and profitable rule could be adopted if the companies could receive conscientious and competent work from the medical examiners, which an extensive observation prompts us to say is not done as a rule.

The indications of old age may be noticed by ocular inspection. The weight of years is manifested by the stoop figure, the walk is less elastic, the rounded figure gives place to the spare habit of body, the wrinkle of time mounts the cheek, while the frost of many winters mantles the brow. The typical healthy person who attains to old age is spare of body, and old age emphasizes this fact by causing a paucity of adipose tissue. So the wrinkle of time after all is kindly in its nature. Physiologically we notice that a diminution of the physical energy is accompanied by a corresponding diminution of the power to eliminate waste material from the body. Elasticity and strength give place to hardness and brittleness of nearly all of the tissues of the body. The general health may be good, because there is a harmonious balance between the action of the nervous system and the circulatory system. However, the former is less responsive to external stimulation, and the latter is less vigorous in old age. The vital processes conducted by the circulation, respiration and metabolic changes in the tissues are less active. There is diminished adaptability of the whole system to changes in the environment, and less ability to meet the requirements of emergencies, such as sudden demands of muscular and mental strain.

The senile conditions and diseases that render old age uninsurable are numerous and obvious. In the first place, weakened digestion and assimilation; the weakened vigor of the circulation and glandular system necessarily weakens the power of eliminating the excrementitious substances, which gives rise to pernicious nutrition, and that in turn is the cause of the tendency to develop malignant or benign growths in different parts of the body in old age. The strong tendency to over-eat and under-drink, together with the natural decline of functional power, gives rise to a condition of lithemia, which is the prime cause of the majority of deaths in old age. In the healthy state that great glandular furnace and chemical laboratory, the liver, is capable of transforming an excess of nitrogenous matter, which may result from metabolism of tissue or exist in the food consumed, into the highly soluble excrementitious substance known as urea. This excrement is eliminated from the blood mainly by the kidneys and to a much less extent by the skin. Now in old age, with the functional power and natural vitality on the wane, together with the strong tendency to overtax this function of the liver, we find this waste is not converted into urea, but into uric or lithic acid, a comparatively insoluble excrementitious and toxic substance, which if it appear in the blood in sufficient quantity, and is long enough continued in circulation through the urinary tubules, sets up irritation and inflammation, which inevitably impairs the function of the renal epithelium, and we find this poisonous substance is not eliminated from the system, but accumulates in the blood. This explains why old people are almost universally troubled with disease of the liver, kidneys, bladder and prostate gland. The unstable circulation, atheromatous changes and brittleness of the walls of the blood vessels, with the tendency to over-tax the digestive apparatus, is the cause of many old people going to "that bourne from which no traveler returns," by the apoplectic route. Hereditary diseases naturally manifest themselves when the vitality is upon a low plane, when the general health is below a certain level; so we are not surprised to find certain dyscrasic and latent tendencies manifesting themselves at this period of life, when the natural vitality is waning. The diseases most frequently found to be the cause of dissolution among the aged are pneumonia, diseases of the liver and urinary organs, consumption, cancer, apoplexy, gangrene.

Old age is not insurable, because the expectancy of continued life is too uncertain. The question of time obviously enters largely into the fact that makes a risk profitable or unprofitable to the company writing the contract. Experience has taught that mankind over 60 years of age are not profitable risks, because the life tenure is too short. The agencies of dress reform, physical culture and self-knowledge, which are beginning to unfold themselves by an educational process at the present time, will tend to increase the longevity of the human race. The writer expects that two generations hence the time limit can safely be extended to seventy years. The enemy to longevity is self-indulgence. People who have reached an advanced age may prolong their lives and greatly add to the comfort of their declining years by diminishing the quantity of food ingested; by taking food more frequently and in smaller amounts; by taking only easily digested food; thereby avoiding too large a residue of waste matter, either in the intestinal canal, or in the form of excrementitious matter in the blood.

PRACTICAL NOTES.

Sodium Salicylate and Caffein in Uterine Atony.—Katzenellenbogen states that he has found this combination effective in securing energetic contractions of the uterus intra partum. Twenty to thirty centigrams were injected subcutaneously.—*Semaine Méd.*, December 29.

Electric Apparatus for Migraine.—At the meeting of the Berlin Medical Association, December 8, L. Ewer exhibited an apparatus consisting of an accumulator and dynamo with a rubber knob attached, which imparts slight impulses as it rotates, which, he states, cure in a few minutes all cases of migraine, except the angioparalytic form.—*Deu. M. Woch.*, December 23.

Bremer's Macroscopic Test of Diabetic Blood.—Object glasses are smeared with normal and the suspected blood and placed ten minutes in the oven at a temperature of 135 degrees C. A 1 per cent. aqueous solution of Congo red or methylene blue, stains the normal blood the corresponding tint, while the diabetic blood is only slightly or not at all affected by it. The stain should be applied from one and one-half to two minutes; if left longer the difference becomes less marked.—*Deu. Med. Woch.*, January 6.

Serum Treatment of Ozena.—At the Italian Congress of Otorhino-laryngology held at Rome in October, Della Vedova and Belfanti proclaimed the efficacy of serotherapy in ozena, which they have established by much experimental work. Masini also conceded its value, but considers cataphoresis with slow electrolysis the chief reliance. Others recognized the benefits to be derived from serotherapy in certain cases. . . . *Wratsch* No. 40, reports another case of the complete recovery of a child of 5 years after a single injection of 10 cm. of Roux's antidiphtheria serum.

Therapeutics of Whooping Cough.—According to Busdraghi's experience a treatment that disinfects, soothes the nervous system and keeps up the strength is much better than any of the so called specifics. For the first he advises spraying for ten minutes a day with a 2 per cent. solution of carbolic. For the second he prefers trional, which ensures a calm, lasting and strengthening sleep, 0.1 to 0.5 gram according to age. He adds a teaspoon of a 1 per cent. solution of chloral in very obstinate cases. To keep up the strength he gives one-fourth to one-half teaspoon somatose in milk three or four times a day.—*Klin. Therap. Woch.*, January 9.

Atropin in Delirium Tremens.—The remedies employed in delirium tremens are only relatively effective, but cold baths affect the syndrome favorably. Reasoning from the assumption that they stimulate the inhibited cerebral centers. Tuwim of St. Petersburg, has been trying atropin, which also stimulates the centers, and announces that it is extremely successful. In ten out of eleven cases a single injection of one milligram of atropin threw the patient into a calm and deep sleep in fifteen to twenty minutes. In the one case in which delirium persisted it was complicated with erysipelas, and yielded finally to a cold bath. He recommends, therefore, subcutaneous injections of atropin, supplemented if necessary by cold baths in the treatment of delirium tremens.—*Semaine Méd.*, December 29.

Ambulant Treatment of Fractures of the Limbs.—Lambret of Lille recently osteotomized the femur of a patient for a genu valgum. The next day the patient walked with crutches, the day after with a cane, and "after that with his hands in his pockets." The apparatus used has a plaster cast around the pelvis in which is mounted a sheet metal crescent, which rests on the ischium. A piece of sheet metal also encircles the knee, below which is the stirrup. The entire apparatus weighs four kilos. The patient walks with the pelvis, the knee rectilinear. He urges the more general adoption of the ambulant treatment.—*Nord. Méd.*, January 1.

Length of Time a Lying in Patient Should Remain in Bed.—An extensive series of tests at the Breslau Clinic, is reported by Brutzer in the *Ztf. f. Geb. u. Gyn.* (Vol. 37, No. 3), which establishes the fact that in certain cases discriminated by the physician, the patient can leave her bed on the second or third day, and that it is injurious rather than beneficial for normal women to stay in bed more than five days at most. Danger of lacerations is much more imminent from defecation or urination than simple moving around. Embolisms do not occur after the second day in normal women if we accept the published statistics. The patients who had quitted their bed early were much stronger when finally dismissed at the tenth day, than those who had kept the reclining position longer.—*D. M. Woch.* January 6.

The Value of Euquinin as a Tasteless Substitute for Quinin mentioned in the JOURNAL (January 1, page 38), is confirmed by the experience of the Milan hospitals where it has been tested on a large scale. Pangrossi also reports fourteen cases treated with it. The conclusions are as announced, that euquinin possesses the same specific and general properties as quinin, in the same intensity, and should be administered in the same doses. The disturbances caused by quinin intoxication do not accompany the use of euquinin, and it has also been found a stimulant to the appetite. A bitter taste develops if held a long while in the mouth, which justifies the assumption that in the stomach it has the tonic property of a bitter substance. —*Gazz. degli Osp. e delle Clin.*, No. 136, 1897.

Treatment of Chronic Cervical Gonorrhea.—F. Lehmann reports several tedious chronic cases cured in three weeks. After cleansing the parts with a soda solution, he introduced into the cervix a conic metal dilator fitted into a small metal tube speculum, the whole introduced through a vaginal speculum. The dilator is withdrawn in the course of five to ten minutes, and through the small tube speculum a tampon dipped in the desired caustic is applied to the entire surface of the cervical mucosa, as it is exposed by the gradual withdrawal of the small speculum. He prefers 5 per cent. argentum nitricum, but chlorid of zinc or argonin can be used. The best results were attained with nulliparæ. Where there is much infiltration, the massage by the dilator is an important factor.—*Deutsche Med. Woch.*, January 6.

Sulpho ricinate of Phenol in Tuberculous Laryngitis and Rhinitis.—Ruault's solution of pure phenic acid in acid sulfo-ricinum has been recently used by Magenau in forty-five cases of tuberculous laryngitis with such benefit that he recommends it to others. In nearly every case the sputa became more fluid, expectoration easier, the voice clearer, swallowing less painful. None were cured completely, but in twenty-seven cases followed to date, twelve were remarkably improved; nine slightly and six not at all. It was applied locally in a 20 to 30 per cent. solution two or three times a week, preceded by cocain in some cases. Two cases of tuberculous rhinitis were also much improved, and nearly all cases of "dry" and simple and pachydermic laryngitis.—*Münch. Med. Woch.*, 1897, No. 37.

Value of Electricity in Sciatica.—In a communication to the *Deutsche Med. Woch.* of January 6, Stanowski protests against Möbius's recent assertion that ischias is not benefited by electrotherapy, and describes several extremely severe cases of long standing cured completely by it. He states that he has secured the best results with: 1. The application of the galvanic current, avoiding much variation in the strength of the current; 2, the application of an electrode large enough to cover the entire region from the sacrum to the great trochanter on the affected side (30x20 cm.); 3, applying the other electrode to the sole of the foot, to which it must correspond in size; 4, the current passing down the leg, the positive pole on the sacral region and the negative pole on the foot; 5, half hour treatments at least, and better still, three quarters to an hour each time; 6, the current so graduated that the patient feels no unpleasant sensation from it, especially no tendency to cramps in the leg. He commences with 30 milliamperes in the first sittings, afterward 8 to 10. The electrodes must fit close to the surface, which is protected by a sponge on the sole and four folded towels on the sacral region. The plates are held in place with a leather band. In three and one-half months he transforms helpless, pain-racked invalids into vigorous bicycle riders: his success has been constant.

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SATURDAY, FEBRUARY 19, 1898.

THE MOBILE CONVENTION.

The most important sanitary Convention of recent years was held in Mobile on the 9th, 10th and 11th of February. The Convention was composed principally of representatives from the Gulf and South-Atlantic States, a few invited members being present. The Committee on Resolutions were divided ten to two, ten favoring the Spooner Bill as it stands, and two favoring the modified Caffery Bill. These two were from Georgia.

On these reports reaching the Convention they were debated at length; the Hon. W. H. CLARKE of Mobile made a substitute resolution, and the following action was taken (we quote from the minutes of the meeting):

Mr. CLARKE asked leave to withdraw his substitute and offer another in its place. Granted.

Col. KAY, of the minority report, withdrew the report.

Dr. HORLBECK withdrew the majority report and moved that CLARKE'S substitute be adopted. Carried unanimously and amid great applause. The substitute reads as follows:

Resolved, That it is the sense of this Convention:

1. That Congress be requested to provide for a department of public health as soon as practicable.

2. That it is the sense of this Convention that Congress should enact laws to provide for an efficient maritime quarantine to be uniform and impartial in its application to the different commercial ports of this country, so as to give to no one or more of them undue commercial advantage over the others, and to be enforced by the several State and municipal quarantine or health boards, if they will undertake so to do, leaving also to the States the power to prescribe and enforce additional reasonable safeguards of the health of their communities, provided that such State action shall not unreasonably obstruct commerce.

3. That Congress should aid the several States in establishing and maintaining uniform, reasonable and efficient quarantine laws for affecting but not regulating interstate commerce, leaving to each State adequate power to protect as it shall deem best the lives and health of its people.

4. That Congress should leave exclusively to the States the regulation of their purely internal commerce and the providing of such quarantine and sanitary law regulations as they may deem advisable to that end.

5. That in the framing of quarantine laws and regulations, and in their enforcement, Congress should avail itself of the learning, experience and ability of the medical profession in the fullest measure possible, and especially by way of an advisory council.

It will be seen that the essential features of the bill recommended by the Committee of the AMERICAN MEDICAL ASSOCIATION and the American Public Health Association are thus endorsed by a great convention vitally interested in this question, recommending first the establishment of a department of public health, and that quarantine regulations be adopted with the aid and advice of a sanitary council. The pretentions of one man representing a single bureau were thus overturned. We shall give this week and next a full text of the proceedings of this convention.

It now remains for each member of the ASSOCIATION to immediately write his member of Congress and Senators, urging the passage of the bill on the lines of the Spooner Bill, establishing a commission of public health, with an advisory council.

The Convention was orderly and harmonious throughout, and while the discussions were earnest and carried on by men who felt deeply the responsibilities devolving upon them and upon the convention, were never characterized by anything but courtesy and kindly feeling.

The opinions of eminent lawyers of the South in regard to constitutional questions, seem to be conclusive with regard to the enforcement of municipal health regulations by acts of Congress, that those favoring such action by Congress will have to suggest a constitutional amendment to be passed upon by the several States in their legislatures, before such action can be taken, and even then it is doubtful if there is any widespread demand for it at this time.

The State of Mississippi last week made an appropriation of $50,000 to be placed at the disposal of its State Board of Health (which had been previously almost without funds, and hence was crippled during the last epidemic). The legislature also provided that the regulations of the State Board should be supreme throughout the municipalities in the State, and that whenever attempted to be overrun, the governor was authorized to call out the militia to sustain the board. This is a long step in advance and will probably solve the problem so far as interstate commerce and interference with common carriers is concerned. It will also have a very healthy effect in preventing a panic, which is more disastrous in most cases to commercial interests than the epidemic itself. It will be recalled that at this time the National Government is engaged in running a quarantine camp, and vaccinating citizens of Alabama at an estimated expense of three or four hundred dollars a day.

It is understood that the House Committee on

Interstate Commerce (of which Mr. HEPBURN of Iowa is chairman) have resolved to have hearings this week. By the time this reaches our readers the hearings will have been concluded. It is to be hoped that the members will see the importance, if they wish a department or a commission of public health, of moving in this matter instantly and without delay.

Let us have a commission of public health with an advisory council!

THE CAUSE OF DEATH FROM ELECTRIC SHOCK.

The constantly widening employment of electricity, the common use of powerful currents under conditions and in places where some slight derangement may give rise to serious accidents, and the too frequent occurrence of these, make the subject of their cause and manner of occurrence one of unusual interest. It is not necessary to speak of the dangers from fire, which are perhaps really the most serious ones we have to guard against, as the ones most likely to be encountered; the less frequent, but still sufficiently common, perils to human life directly from the current fall more properly into the scope of medical investigation. It is an important question just how death occurs from a powerful electric shock, whether it is instantaneous or not and just what organs and centers are particularly involved. By knowing this we can best estimate the value of any therapeutic resources in these cases and act intelligently in the presence of these accidents.

It has been the opinion of some physiologists that the postmortem findings have indicated that death occurred in these cases from arrest of the respiration, while others have conjectured that cardiac arrest was rather the cause. To settle this question as far as possible, two English physiologists, Drs. THOMAS OLIVER and ROBERT A. BOLAM, undertook a series of experimental investigations, the results of which they have published in the *British Medical Journal* of January 15. These experiments utilized dogs and rabbits, which were subjected, under ether, to high potential currents, the blood pressure and the respiration being instrumentally recorded the while. The alternating current, usually considered the most deadly, was alone employed.

The results of these experiments seem to support the view that death from electric currents of high potential is chiefly, if not solely, due to cardiac arrest. The experimenters found that when a sufficient current was used, the dogs or rabbits succumbed instantaneously with stoppage of the heart; if one of somewhat less potential is employed there may be suspended respiration with the pulse first quickened and then arrested. Usually the heart was first arrested, while rhythmic respiration continued for some appreciable time. Only with very high currents were both arrested together simultaneously. In no case did they observe primary permanent arrest of respiration with continuance of the heart's action. The indications of the recording instruments were supported by those from direct auscultation. After death the left ventricle was found in some of the animals nearly empty, while the right ventricle and large veins were distended with dark fluid blood.

So far as these experiments go the evidence of death by cardiac arrest was conclusive. They did not, however, give any absolute data as to the relation between the strength of the current and the fatal effect; the voltage was not necessarily in proportion to the size of the animal. It appeared possible that younger and less highly organized animals required stronger currents for the fully lethal effect than older and more highly organized ones, but this is stated merely as a suggestion. It is a practically well known fact that it takes more voltage apparently to kill a man than it does some larger animals, which is in part, if not altogether, in accordance with the above statement. It would be a very fortunate thing if we could obtain sufficient data as to every fatal or non-fatal accident from electricity as it occurs from competent observers on the spot, but the conditions are seldom such as to permit this, therefore generalizations as to the exact behavior of the human organism under all the varying circumstances are hardly possible. Much, however, might be learned by careful investigation of each case, and OLIVER and BOLAM quote the testimony of workmen who have observed victims of electric shock make a few respirations after its reception. The currents and methods used in the legal electrocutions in New York are not such as to be altogether comparable to most of the accidents that occur, and of course they do not allow the graphic records of blood pressure and respiration that can be secured in physiologic experimentation. The investigations of the English authors have therefore a special value, as bearing upon the sometimes questioned efficiency of that method of capital punishment. There can be little doubt but that death must be instantaneous in the electric chair, and the continued application of the current would certainly insure it were there any question of the possibility of resuscitation.

As regards the methods to be used for restoration of the victims of electric shock, OLIVER and BOLAM think artificial respiration is after all the most hopeful one, notwithstanding the fact that cardiac arrest is to be considered the chief feature in causing death. It would appear that restoration of the respiration was the best cardiac tonic; many others were tried as well as direct cardiac stimulation and relief of the loaded cavities, but generally if not universally without effect. By artificial respiration they succeeded twice in reviving animals, once after twenty minutes efforts, but they consider this, or at least half an hour, as

about the limit of time in which there can be any hope from its employment.

As regards the question of the relative deadliness of the continuous and the alternating currents, there is evidently in their minds some room for difference of opinion, and they propose to give the results of their investigations on this point in a future communication. D'ARSONVAL, as is well known, has maintained that the continuous current is the more dangerous owing to its greater chemical action, and it may be that there is reason in this opinion. His other claim, that death from simple electric shock is more apparent than genuine, would seem to be overthrown by the experiments of the British investigators. If it is only very exceptionally that resuscitation can be effected in the dog, there is no reason why with stronger currents the same is not true with the human species. The conditions of experiments by skilled physiologists are much more satisfactory than those of the occasional accidents and the conclusions derived from them much more convincing. In the reported cases where a current of several thousand volts has been passed through the human organism without causing death, there are too many unnoted possibilities to make the conditions comparable to those of careful physiologic experimentation by skilled observers. We do not know the minimum limit of voltage required to kill a man under all circumstances, but there can be little question, none the less, of the dangers of high potential electric currents.

DISEASES ASSOCIATED WITH PERSISTENCE AND ENLARGEMENT OF THE THYMUS GLAND AND GENERAL LYMPHATIC HYPERPLASIA.

In the recent Bulletin of the Ohio Hospital for Epileptics, at Gallipolis, Ohio, Dr. A. P. OHLMACHER, the Director of the Pathological Laboratory, describes postmortem examinations in certain cases of epilepsy. In three of the five cases examined there was found a persistent, enlarged thymus, and in four of the cases there was a more or less general lymphadenoid hyperplasia. On this account he calls attention to the other conditions that frequently occur in connection with thymic enlargements, namely: 1, so-called thymic asthma; 2, sudden death in adults with persistent thymus; and 3, exophthalmic goiter.

Thymic asthma is the laryngismus stridulus of the English and American clinicians. Its anatomic basis has given rise to much discussion in German literature; the strife has concerned especially the relationship of the enlarged thymus usually present to the affection, and the controversy is still unended. Thymic asthma or laryngismus stridulus is usually a benign affection, and yet very many cases of sudden death in infants are ascribed to this disease. The paroxysm of laryngismus stridulus ending in sudden death does not require any description at this time. Suffice it to say, that some children in apparently full health have expired suddenly, in the presence of witnesses or in the arms of parents; others have been found dead in bed, and in at least one case criminal proceedings were brought against the nurse on suspicion of foul play. At other times infants have been found dead in bed beside the mother, and it has been thought that death was caused by mechanical suffocation, until the autopsy brought out the gross pathologic findings about to be referred to. Undoubtedly very many of the death certificates in which children are said to have died from convulsions include cases of thymic asthma.

KOPP[1] gave the name of thymic asthma to laryngismus stridulus on account of the enlargement of the thymus gland so often observed. The majority of the writers who have studied the anatomic changes in thymic asthma have noted the enlargement of the thymus, and while all do not agree as to its causal bearing yet the trend of opinion is to look upon it as the most important factor. In addition to the enlarged thymus the evidences of rickets are often observed in the bones. GRAWITZ[2] was the one to lay the greatest stress upon the importance of enlarged thymus in these cases.

In his second case, which concerns a six-month baby who died suddenly in its father's arms, GRAWITZ found a hyperplastic thymus, rickety changes in the ribs, enlarged intestinal follices, enlarged spleen and enlarged mesenteric glands.

PALTAUF[3] made an extended study of the other lymphatic changes in thymic asthma, and he found that many of the infants dying from this affection presented a pale skin, well developed fat layer, enlarged spleen, and the epiphyseal changes of rickets, with enlarged lymphatic glands in various parts of the body. Now, these accessory changes which are usually present may be looked upon as indicating that thymic asthma is in some way related to some constitutional disorder, to rickets, or to the so-called "lymphatic constitution." The question as to the exact causation of the clinical symptoms of laryngismus stridulus still remains open. The pressure theory is hardly sufficient to explain all the cases of sudden death, and yet there can hardly be any doubt that hyperplasia of the thymus may cause dangerous and fatal dyspnea by producing tracheo- or broncho-stenosis, because SIEGEL[4] has reported the recovery of such a case in a 2½ year-old child after placing the enlarged thymus outside the chest cavity. The question has, however, assumed a broader form, since it has been pointed out that the thymic enlargement is only a part of the general hyperplastic condition of the lymphadenoid tissues of the body.

[1] Ohlmacher, loc. cit.
[2] Deutsch. Med. Wochenschr., 1888.
[3] Wien. kl. Wochenschr., ii. iii.
[4] Centralbl. für innere medicin, 1896.

Sudden death in adults with persistent thymus has also been described in German literature. Most of the cases have occurred in young and apparently healthy adults, the victim suddenly falling dead. The unexpected death often takes place under conditions that give it a not only marked pathologic but also medico-legal interest. The persons may be found dead, they may die suddenly in the presence of spectators, while bathing, by falling into the water and drowning, during surgical narcosis and surgical operations. Cases coming under these various categories have been described by NORDMANN,[5] VON RECKLINGHAUSEN,[6] PALTAUF and others. Now, in these cases there has been found, first, a real enlargement or a persistent thymus, and secondly, hyperplasia of the lymphadenoid tissue in various parts of the body. The general tendency is to look to the whole picture of lymphatic hyperplasia for an explanation of the disease, rather than to confine the attention solely to the thymus.

It seems that after exhausting all possibilities, as cardiac muscular or ganglionic affections, capillary bronchitis, etc., a number of cases of sudden infantile death, with the symptoms of thymic asthma, and of sudden death in adults, both showing hyperplasia as well as persistence of the thymus and general lymphadenoid hyperplasia remain, which can not be explained on any other grounds than by assuming some connection between the changes in the lymphatic tissues and the fatal ending.

VON RECKLINGHAUSEN[7] also calls attention to the fact that the arteries are usually narrowed in the "lymphatic constitution."

The thymus gland is frequently persistent and enlarged in exophthalmic goiter. The frequency of persistent thymus in this disease is entirely too great to be accounted for on the score of accidental coincidence. This has been emphasized by HEKTOEN[8] in an article on hyperplastic persistent thymus in exophthalmic goiter. HALE WHITE[9] and others have shown that in some of these cases there are also other lymphatic hyperplasias, and it is very interesting to note that two of WHITE'S patients died suddenly in much the same mysterious manner as those succumbing who present the signs of the "lymphatic constitution.

Our knowledge concerning the thymus and its function is practically *nil*, and yet the enlargement and the persistence of this organ in so many conditions, known by different clinical names and appearing as separate entities, can not very well be construed as without significance. It will be remembered that normally the thymus attains its full size at about the second year, and that it remains stationary until puberty, when it rapidly retrogrades, the lymphadenoid elements becoming displaced by fat and connective tissue, and finally only rests of the original structure remain. The mass of fat and connective tissue that results from this displacement of the thymus, which resembles the shape and the size of the organ, has been called the thymus fat body by WALDEYER.[10]

Now, it is singularly significant to observe that OHLMACHER, in four consecutive fatal cases of epilepsy, should come across an uniformly characteristic condition, namely, enlarged, persistent thymus, and a more or less well-marked general lymphadenoid hyperplasia. One of the four cases was found "dead in bed;" the anatomic condition coincides accurately with that found in several other enigmatic diseases that we have mentioned, some of which possess certain clinical analogies. One thing must be quite clear, and that is that somewhere and somehow the peculiar morphologic anomalies found in these cases of epilepsy and noted in thymic asthma, thymic sudden death and exophthalmic goiter, will in the end be found to have something more than a mere accidental bearing upon these diseases. Undoubtedly such observations as those that OHLMACHER has so carefully recorded and analyzed, especially if they are to be duplicated by others in the future, will serve to direct renewed attention to the part played in physiology by that rather anomalous organ, the thymus. One problem that invites continued investigation is the pathologic importance and relation of the thymic and lymphadenoid hyperplasia—the "*constitutio lymphatica*"—encountered in connection with the diseases that have been mentioned.

5 Correspondenzblatt der Schweizer Aerzte, 1889.
6 Ohlmacher, loc. cit.
7 Loc. cit.
8 International Medical Magazine, 1895.
9 British Medical Journal, 1886.
10 Centralbl. für med. Wissenschaften, 1890.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The annual meeting of this society at Albany on the 25th, 26th and 27th of January, was of more than passing interest in some respects.

Of the forty-five papers read thirty-three were surgical. One evening was devoted to X-rays in medicine and surgery, and four long descriptive papers were read on the progress and technique of this subject. Of the subjects presented medico-legal testimony created some interest; the treatment of insane in the State brought out some comments by evident opponents. The dispensary abuse in New York was avoided, although two parties were present with maps and charts to prove its enormity and the value of dispensaries. Some New York men were trying to promote a scheme to organize a National society of delegates from the State societies alone to meet in Washington yearly to influence legislation. The other topics seemed to call out a great deal of mutual admiration, and were evidently restatements of facts conceded to be correct.

The usual attempts to exhaust the subject, which usually begins with the introduction of the paper, were noticeable. The encyclopediac writer and the writers who are sure of the physiology, and who describe with startling minuteness most complex operations of nature, and the surgeons whose results are as certain as the repairs of a wagon, were all present. The president's address was an appeal to the profession for higher standards of practice, and a closer relation of social and professional work. It was interesting to note how thoroughly surgery absorbs the present interest of the profession. The great surgeons of New York City are gradually declining, and the inland city and village physician whose post-graduate courses have fitted him for surgical and diagnostic work, are coming into prominence. The writers of text-books and teachers in schools find consultation declining and their income falling off. The rush of specialists to the large medical societies to regain their losing prestige by papers and discussions before the country and general practitioner is increasing. The treatment and practice in large pauper hospitals is misleading, and often very impractical in private work. The results of such treatment when embodied in text-books and elaborate papers, can not be confirmed in private experience and hence confusion follows. Text works by men who never had experience except in hospitals and among paupers are not always good authority.

Physicians who relegate all science to their circles of work and who doubt everything beyond this, are happily growing less every year. State societies fail to be of much use when they confine their subjects to a few topics. When societies become large they should divide into sections where each subject can be treated at some length. The practitioners from the hill countries of New York have diminished interest in the State gatherings of medical men where only certain topics are discussed.

CORRESPONDENCE.

Foreign Correspondence—Vienna Therapeutics.

PARIS, Jan. 29, 1898.

To the Editor:—While Germany is the acknowledged seat of expectancy in therapeutics, the Vienna school, in her attitude toward the effect of drugs in the treatment of disease, is inclined to go a little farther in her unbelief, and approach even the border line of nihilism itself. Nothnagel says: "When called to treat a patient, study the case well, and make the best diagnosis you can. When this is done, never ask yourself this question first: What shall I give this man or woman, but always ask, shall I give him anything?" In a late clinical lecture on a case of chronic atrophic Bright's disease, after describing in a graphic manner the history, symptoms and pathology of the case, he asked: "What shall we give this patient?" His answer was, "Absolutely nothing;" not even the milk diet that he had advised in an acute inflammatory case of the same affection. The next case was one of pleurisy with serous effusion, and in this, excepting advising opiates to relieve pain, and mild counter-irritants to the side, he was equally outspoken in his lack of faith in all medication of whatsoever kind.

Surgically, he would only advise interference if the quantity of the fluid was such as to materially interfere with respiration or the functions of the heart.

"Why is it," he asks, "that after more than a century of existence homeopathy with all its absurdities, still lives, and like Hamlet's ghost will not down. There is but one explanation, that is, that the regular school of medicine injure their patients by the drugs they give them. Is it any wonder that a man with the gonorrhea will seek the advice of a follower of Hahnemann, who will give him a little infinitesimal nonsense which will do him no harm, if no good, instead of consulting a regular practitioner, who would probably put him on the balsam of copaiba, a remedy that will disgust his palate, nauseate his stomach, derange his bowels and irritate his kidneys, but can have no curative effect upon the disease from which he is suffering. If the regular profession had followed the teachings of the Vienna school, homeopathy would have long since died a natural death."

Prof. Störk, in a late lecture on tuberculosis, said: "The treatment of this disease consist in nutrition and hygiene; medicines of all kinds are worthless, unless it be such as may aid digestion and assimilation. Creosote is now the rage, and the poor phthisic victim clings to this dernier hope with all the faith and tenacity with which the crusader followed his flag upon which was painted the sign of the cross. Every now and then you read of cases who have recovered from this disease after taking huge doses of this drug. What is the explanation? It is this; any stomach that can tolerate these doses, can digest food enough to cure the patient, who recovers, not because they took the drug, but in spite of it."

I have visited Vienna at intervals of ten years, and this is my third visit. I find with the lapse of each decade, the treatment of the sick is more and more expectant in character. Twenty years ago, in the treatment of typhoid fever nearly every patient was submerged into a tub of cold water, several times in the twenty-four hours. Now, such a treatment is only carried out in a minority of cases. Though cold sponging is still a general practice, patients are now only regularly tubbed whose temperature is very high, and where such temperature profoundly affects the nervous system.

I saw carried out in one service a plan of tubbing that struck me as rational. It was to put the patient in a bath 2 degrees C. below the temperature of his body, add cold water to this so as to reduce the temperature, 1 degree every five minutes, until 30 degrees is reached, and then allow the patient to remain in the tub ten minutes at this last temperature. No medicines are given with a view of affecting the general course of the disease. If the patient at the outset be constipated a calomel purgative is given, followed by a saline if necessary. After the alimentary tract is thus once thoroughly evacuated all purgatives are thereafter eschewed, the bowels being moved once in twenty-four or forty-eight hours by an enema of cold or tepid water.

The reason assigned for this mode of treatment is that cases do better where the bowels are inclined to constipation, than in those in which there is a diarrhea. Light wines are given during the entire course of the disease and the patient is nourished with raw eggs, milk and animal soups. Great stress is laid on the diet that the patient takes, and he is never allowed an unrestricted one until four weeks after all febrile symptoms have disappeared.

I have tried in a modest way to do a little missionary work in one of the medical services here in Vienna for Dr. Woodbridge's treatment of typhoid fever. I find, however, that my efforts have been an utter failure. I am met with the argument that the disease from earliest manifestation is a constitutional one, the local lesions only playing a secondary role. That while the specific germ that produces the disease first gains access to the blood through the alimentary tract, later on we find this germ

abundantly in the spleen and other internal organs, but only in small numbers, comparatively, in the intestinal tract, so that it was only after the introduction of the Widal method that a diagnosis of the disease through bacteriologic investigation was rendered at all practical, though much labor had been exhausted in the examination of the stools for this germ.

I am surprised, however, to find that in spite of the extensive discussion that this subject has attained in the medical journals in America, not a physician in any of the half dozen hospitals here in Europe to whom I have spoken of the matter, had ever heard of it before.

The treatment of pneumonia is as expectant as possible. The cold applications to the chest, so much vaunted by some of the good men with us, is only used in one of the services here as a regular rule of practice. Expectorants, and especially those of a nauseating character are not used, but if the cough be dry and troublesome, in their stead, tar and eucalyptus is dropped into hot water, and the patient is allowed to inhale the hot vapor from these substances. To relieve the pleuritic pains, Dover's powder is given, and chloral is administered, generally per rectum, to quiet the nervous system and procure sleep. When symptoms of heart failure manifest themselves digitalis, caffein and brandy are given. In the management of heart lesions Nothnagel eschews all medication as long as circulatory compensation still exists, and is especially emphatic in his opinion that digitalis is of no service and often harmful, until this condition of things appear in the course of valvular lesions of this organ. When, however, edema of the extremities, dyspnea and the like symptoms show themselves, he puts his patient to bed and puts him on large doses of an infusion of digitalis. He uses the remedy for three days, and then discontinues it for two days, and so on. The Oertel treatment of heart lesion by exercise, he only thinks applicable to such cases, where the muscular substance of the heart is involved and not the valves. He does not think that the tinctures and fluid extracts of digitalis are reliable at all.

Speaking of digitalis, I would like to ask the men who read this letter, whether or not they have settled down on a form of this drug that is satisfactory to them, and on which they can rely. If they have, they have been more fortunate than I have been. I have tried them all and have found nearly all equally disappointing.

Some years ago I listened to a series of lectures by the late Germain Sée on the action of this drug in health and disease. They were masterpieces both in a scientific and literary point of view. He discarded all the crude preparations of the plant and relied entirely on the alkaloid digitalin. I followed his teachings for a few years, but often being dissatisfied with the action of the remedy, I abandoned it except for hypodermic use, and have since then tried a variety of its crude preparations.

I was younger then than I am now and I must with some humility and shame acknowledge that I was first induced to drift away from old friend digitalin by one of those long, parrot-tongued agents of one of the thousand and one manufacturing drug houses that infest our country, and are such incorrigible bores to a busy practitioner. Some man who has more brains than they have, write them a little speech; they commit it and deliver it with an unerring accuracy to every unfortunate doctor that they pour down upon. An agent from Cincinnati first struck me. His house produced a tincture from a German grown plant that nothing on earth could equal. After that a babbling agent from Philadelphia, one from Detroit, a horde from St. Louis invaded my sanctum one after another, and like Eve I lost my head and was tempted and led astray by the sweet voices and charming manners of these unscrupulous commercial agents. Seriously, I believe that the stuff that these men are selling to a large number of our physicians, especially the younger ones, including as it does ready-made and compounded remedies for all imaginary diseases, is one of the worst stumbling-blocks in the way of a true advancement in the line of therapeutics.

Huchard, in a late number of *Le Journal des Practiciens* treating of this subject, discards all crude preparations of digitalis on account of their variation in strength, and uses digitalin alone. He claims that all cultivated specimens of the herb are next to worthless.

I have spent twenty months in Vienna, and have been a pretty constant attendant at one or the other of the two surgical clinics here. I believe that approximately I have seen 800 patients anesthetized during that time, and of these four have died on the table from the effects of the anesthetic. The agent used was always either pure chloroform, or that even more dangerous compound in my opinion, the A. C. E mixture.

Among the early axioms that I learned as a medical student was one that said statistics *never lie*. I believe now, however, that that proverb has been revised, and it is now safe to assert that statistics *always lie*. I am sure they lie and lie awfully in regard to the mortality following the use of chloroform as a general anesthetic; for those given by Dr. Andrews show such a mortality to be only one in 5000, while my observation shows a mortality of one in 200. In spite of the facts in the case which I believe will show, as Dr. Da Costa of Philadelphia wrote me, that chloroform is ten times as fatal in its effects as ether, in answer to the question as to whether the surgeon used chloroform or ether, sent out by me to a large number of surgeons in the United States, shows that three-fourths of those living west of the Mississippi River use the more dangerous agent.

What strikes me as strange, and may account for the terrible mortality of chloroform here in Vienna, is the fact that no attention is paid as to the position the patient occupies while under the anesthetic. Both the patients I saw die this winter were in a semi-erect position when the first fatal symptoms were manifested. Briefly the history of the last case was this: A healthy looking man, aged 51 years, was brought into Professor Gussenbauer's amphitheater to be operated on for a recurring sarcoma in the right maxillary region, and in which it was necessary to remove a large portion of the superior maxilla, and the outer third of the inferior maxillary bone. The patient was placed in a semi-erect position, the A. C. E. mixture was given, and when the operation had continued about thirty minutes and was about half finished, he ceased to breathe. The patient was now hurriedly placed in a horizontal position, a brisk stream of cold water was thrown from a height on his bowels and chest, artificial respiration was resorted to and kept up for two or three minutes. As no amelioration in the patient's symptoms seemed apparent at the end of this time, a tracheotomy was rapidly done, a tube introduced and Professor Gussenbauer sucked out about a drachm of blood from the trachea. A rubber tube was now introduced into the tracheal tube, and through this was thrown a gentle stream of oxygen gas. During all this time artificial respiration was kept up, and the stream of cold water kept playing on the bowels and stomach. Only at the end of thirty minutes were these futile efforts at the resuscitation of the patient abandoned. No hypodermic of either nitroglycerin, strychnin or brandy were tried.

Of all the surgeons I have ever seen operate Gussenbauer is the most painstaking in his efforts to save his patients from the loss of blood. Even in an ordinary laparotomy he ties from six to twelve blood vessels before he opens the peritoneal cavity. On the other hand, Pozzi, whose work I am now following, never ligates a vessel in the abdominal wound in doing the same operation.

In the case of the removal of the breast and axillary glands I saw Gussenbauer tie 107 blood vessels, in which case most surgeons would have tied only one-fourth of that number.

Fraternally yours,

W. S. CALDWELL, M.D.

The Appendicitis Question.

DETROIT, MICH., Feb. 14, 1898.

To the Editor:—It has been a rule in my life never to go into a controversy with people, although I have sometimes sent communications to the JOURNAL, giving my views when I disagreed with others. My friend from Richmond, Ind., has sent a long reply to my last communication, and, after carefully reading it, I have come to the conclusion that he is a nice, good fellow and a progressive physician at heart, and if we bring our views together I am sure we will perfectly agree, excepting on some minor details.

He quotes Treves and Thalamon, both of whom had limited experience with the operation of appendicitis, and whose opinions should not count alongside of such men as Robert Morris, J. B. Murphy, Joseph Price, Fowler and Deaver, men who have had hundreds of operations and seen the terrible results of procrastination. When a man who has operated ten, twenty or thirty times and who has had bad results, because he has not learned the *minute detail* of the operation, says you should not operate before the tenth day, except on those cases where a large abscess has formed, which is well walled in and which simply needs to be opened (which any tyro in surgery can do), but who, at the same time, allows a dozen other patients to die on the second, fourth, sixth or eighth day, when such men give their views *they do more harm than we do* who are obliged to take the other extreme.

It depends upon who operates. Often the surgeon, himself, infects the parts that are clean and the patient dies as a result of the operation, but a good abdominal surgeon, with perfect asepsis, will seldom have a patient die before rupture and general peritonitis, except as the result of some unforeseen accident. Ideas are charged to me which I never held nor expressed. There are any number of cases where I refused to operate because I saw the patient was convalescent, but said that if they had recurrence they should have an operation performed the first day. It is easy to say you will operate at the interval, but patients, if they feel perfectly well, will not submit to an operation at the interval, for which I do not blame them, as, they say, "perhaps I will never have another attack."

The other point is diagnosis. Some men can never diagnose a case of appendicitis, or only in rare cases. My views are not expressed on cases where a diagnosis had not been made. I do not operate by guesswork. I assume, in my communication, that diagnosis is made and that, with a rare exception, it can be made in the first twenty-four hours, before rupture has taken place. I am sure the Doctor will agree with me that it is better to operate the first day, or, for that matter, the second, any time before rupture has taken place. That is all I claim. I will admit if you have a fortunate case, where the rupture and the resulting abscess is well walled in and gradually works its way outward, and in the course of ten or fourteen days points at some place near the crest of the ilium, that it is easy and not dangerous to open that and let out the pus. At the same time, before this takes place, in many cases it ruptures into the peritoneal cavity, we have general septic peritonitis, or, the absorption of septic material is so great that your patient dies (in either case) on the fifth or sixth day. So that the controversy stands really here:

My friend will accept the dictum of a general surgeon with a very limited experience in abdominal surgery, like Treves, or some young man, also with a limited experience, like Thalamon, while I prefer the views of men who have operated on a couple of hundred cases each, like Price, Deaver, Murphy, Fowler, Morris and others.

1. He and I agree that a diagnosis should first be made.

2. He and I agree that a convalescent patient should not be operated upon.

3. He and I agree that patients absolutely recover without recurrence and without an operation.

4. He and I also agree that some patients need an operation, and if there is any difference in our views it is simply as to when is the best time.

I believe, with my limited experience, as I see only about fifty cases a year, that the greatest number of patients will be saved if they would all be promptly operated upon as soon as the diagnosis is made. So that, after all, we get so near together that there is no use splitting hairs about it, and I am perfectly convinced that Dr. Haughton is a nice, good fellow, that he means well, and what is more, I am sure he is progressive and wants to arrive at the truth, otherwise, we would never have heard from him. Yours truly,

J. H. CARSTENS, M.D.

The Australian Eunuchs.

CHICAGO, Feb. 10, 1898.

To the Editor:—In an article on "The Oriental Eunuchs," by Dr. Edmund Andrews, in the issue of January 22, in the paragraph on "Australia" the author refers to the natives limiting "the increase of families by crushing the testicles of the father after his first child is born." Referring to this point the facts below are not entirely relevant, but may prove of interest in this connection.

My brother, Mr. Fred Hessert, who has for over a year been sojourning in West Australia, has in his letters to me described some of the customs of the barbaric natives. Owing to the barren desert condition of the country, the natives prevent a too great increase in their number by certain surgical operations performed on the penis. When a boy reaches the age of puberty he is taken in hand by a number of old "bucks," who lead him into the "bush" and there perform on him an external urethrotomy. The opening is made with crude instruments, sharp stones, pieces of tin or old knives and the like obtained from the whites. The opening is made at the beginning of the *pars pendulosa* and is kept open so that eventually a fistula is produced. The object of this procedure is evident; in copulation the semen is ejected through the fistula and the possibility of impregnation reduced to a minimum. When the black desires to impregnate, he plugs up his fistula with a gum or resin obtained from a certain tree. The plug he keeps in place with a few turns of dried grass or vegetable fiber and he again becomes a potent factor.

Another operation that is practiced is to slit up the entire urethra from the perineum anteriorly. This is more radical, and permanently prevents the possibility of impregnation.

These operations are commonly practiced in West Australia at least, and inasmuch as the letters from my brother are exhaustive and in detail, and no mention is made of castration, I would infer that the latter procedure is practiced but very rarely in that region.

As the natives, even in the cold season, are very scantily dressed observation at this point is easy.

Repectfully yours, WILLIAM HESSERT, M.D.

How Squirrels Become Eunuchs.

HAYNEVILLE, ALA., Feb. 10, 1898.

To the Editor:—In the JOURNAL (Feb. 5, 1898) I read a communication from Dr. Eugene S. Talbot on the subject "Do Adult Squirrels Castrate Each Other?"

Castrated Squirrels are frequently killed in this country, and the supposition is almost universal that the operation is done through motives of jealousy in desperate combats.

This is one of the zoölogical fictions belonging in the same category with the horsehair snake.

The missing testicles have been destroyed by a parasitic worm peculiar to those organs of the *sciuri* family.

Yours, C. E. MARLETTE, M.D.

Oxytuberculin.

SANTA CLARA, CAL., Feb. 9, 1898.

To the Editor:—In regard to the "Oxytuberculin" treatment for consumption it is but just to the medical profession at large to comment on the other side. Any treatment which will not bear inspection can not be of much value.

It is a very noticeable fact that all of the cases seem to be diagnosed by one individual, viz., Dr. Hirschfelder. These cases are not presented to the unbiased medical profession for diagnosis before treatment. It is only after an alleged cure or "great benefit" that they seem to be exhibited. Nothing is said about the diet during treatment, which is a matter of very great importance. A patient suffering from tuberculosis, if placed upon a generous diet together with good hygienic conditions and a promise of complete cure, will frequently improve very rapidly. During such improvement, the bacilli become scarce or absent from the sputum. Such a patient may remain well or may succumb to the disease years later. No individual is justified in claiming a cure until at least two years have elapsed without any symptoms of tuberculosis whatsoever.

Living within a few miles of the producer of "Oxytuberculin," I have had opportunity to witness its use in a number of cases. In but one case has there been any apparent benefit. That was a case of asthma and no positive evidence of tuberculosis at all. The case has been reported "cured." No such results are obtained outside of the clinical department of Dr. Hirschfelder and his immediate professional friends as he reports from the inside.

It would appear that the "investigation" by a committee from the faculty of Cooper Medical College was a sort of star-chamber performance at which all medical men liable to be incredulous, inqusitive or over particular about details were excluded. Apparently it was a sort of love-feast participated in by the Faithful. Taken, all in all, there seems to be much assertion and but little evidence that any one has been cured by oxytuberculin rather than by natural forces inherent in the human body, aided by good food and nursing.

Yours respectfully, E. H. SMITH, M.D.

A Correction of Dr. Charles Denison's Article: "The Antitoxic Treatment of Tuberculosis."

CHICAGO, Feb. 14, 1898.

To the Editor:—Dr. Charles Denison enumerates in the above mentioned article the different therapeutic products obtained from cultures of tubercle bacilli: the tuberculin Koch, the tuberculocidin and antiphthisin (Klebs). As No. 4 he gives "tuberculinum purificatum, which name Dr. Karl v. Ruck of Asheville has given to his manufacture of practically the same preparation." In a foot note the manner of preparation of the last is given, absolutely identical with the method published by me in 1894 for the preparation of tuberculocidin.

As Dr. von Ruck, so far as I know, has never published the formula of his "tuberculinum purificatum," I can not say if Dr. Denison is in error or if Dr. von Ruck has brought on the market a preparation the same as tuberculocidin, simply using another name. Probably the first suggestion is the correct one, but the profession should be enlightened on this point by Dr. Charles Denison, Denver, or Dr. Carl von Ruck, Asheville, N. C. EDWIN KLEBS, M.D.

The Idaho Medical Practice Act.

BOISE BARRACKS, IDAHO, Feb. 8, 1898.

To the Editor:—The item in the JOURNAL for January 29, announcing that the supreme court of this State had declared the medical law unconstitutional because it had passed the senate irregularly, is calculated to create a wrong impression among those who should know the facts.

The bill was passed regularly, but the journal of the senate, which should have stated "the bill was then read a third time in full by sections and passed," simply stated, "the bill was then read a third time and passed." The constitution of the State was complied with but the journal was incomplete. On this technicality the bill was pronounced unconstitutional. Verily, on what a slight thread hangs the fate of medical legislation, even after as long and stubbornly fought contest as that by which our "dead" law was procured! Very truly yours, M. W. WOOD,

Chairman Committee on Legislation Idaho State Medical Society.

Tubercle Bacillus.

WARREN, PA., Feb. 12, 1898.

To the Profession:—Any physician knowing of cases in which tubercle bacilli were found in the sputum, without any other physical evidence of disease in the lungs, and having seen such cases for a period of several years, noticed no further progress of the disease, will confer a great favor on the undersigned by reporting the same to him. I desire to obtain evidence on the import of bacillus tuberculosus in the sputum.

M. V. BALL, M.D.

PUBLIC HEALTH.

Progress in Formaldehyd Disinfection.—For two years the Chicago Health Department has been investigating the claims made for formaldehyd as a disinfectant with especial reference to the practicability and value of its use for household or domestic disinfection. For this latter purpose the following requirements must be met: 1. A light portable apparatus of simple construction and easy manipulation. 2. The evolution of a quantity of the gas in from one hour to an hour and a half sufficient for the area to be disinfected. 3. The killing of a majority of all non-spore-bearing bacteria, both in a moist and in a dry state, in a six-hour exposure, and some degree of penetration in this time. 4. Reasonable cost of disinfection per 1000 cubic feet. These requirements are made necessary by the conditions under which most of the department disinfections are made. The greater number are in the poorer districts of the city, where the dwellings and apartments are of loose construction and not uniformly warmed in cold weather. As a rule, the tenants continuously occupy the entire space at their command and on this account they are not infrequently obliged to walk the streets until the disinfection is completed. The time most available is during the middle of the day, and the rooms must be opened in time for the preparation of the evening meal. The great extent of the city, requiring the disinfectors to travel long distances, precludes any heavy or cumbersome apparatus, and the operators are not sufficiently skilled as mechanics to operate valves, thermometers and gauges with which many of the appliances tested are furnished. As all manner of articles are to be disinfected, including clothing, bedding and even kitchen utensils, the disinfecting agent must show reasonably destructive properties toward all kinds of bacteria cultures exposed and especially toward the pathogenic varieties. Every known form of formaldehyd disinfector has been tested during this period, including four using methyl alcohol, two using formochloral, one for the combustion of paraform pastils, and a number using formalin and special compounds. Without going into details at this time the statement may be made unqualifiedly that no apparatus or method thus far tested has fully or even fairly met the requirements deemed essential for municipal disinfection, as above enumerated. Quite recently, however, a device for the vaporization of formalin, in an open vessel containing asbestos chips

or fiber, was brought to the notice of the Commissioner, and the tests of this device, ordered by Dr. Reynolds and conducted under Dr. Gehrmann's supervision, have led to a still further simplification of the apparatus and more recently to the use of formalin diluted by the addition of three times its volume of water. The simplified apparatus consists of a shallow granite-ware vessel, of half-gallon capacity, supported over a methyl-alcohol lamp, capable of holding twelve to sixteen ounces of the wood spirits. The asbestos has been found unnecessary, since it does not prevent the conversion of a larger percentage of the formic aldehyd into inert paraform than when it is not used. Tollens and Mayer had already demonstrated that the polymerization of formic aldehyd does not take place with water at 100 C. when in dilute solution, and the results of Dr. Gehrmann's experiments on this line show that whatever amount of polymerized aldehyd may be formed during the concentration resulting from vaporization can be re-converted into the simple form by a further addition of boiling water. One pound of the formalin solution of 40 per cent strength contains, approximately, 200 grams of formic aldehyd and, as from 30 to 50 grams are sufficient for the disinfection of 1000 cubic feet of space, one pound of the solution should be sufficient for the treatment of 4000 cubic feet, provided all the formaldehyd can be vaporized. In practice the experiments thus far conducted show that by diluting the ordinary solution with three times its volume of hot water and then boiling for half an hour, from 40 to 50 grams of the gas will be disengaged, quite sufficient to disinfect 1000 cubic feet. Whatever paraform is produced may be utilized for the next disinfection by the addition of boiling water; thus there is no waste. A six hours' exposure under these conditions has given better results in the sterilization of cultures than has been obtained by any other method, and the other requirements, simplicity and portability of apparatus, rapid evolution of the disinfecting agent and brief duration of exposure, together with reasonable cost of disinfection, are also more nearly met. The results have, indeed, been so satisfactory and the remarkable bactericidal properties of formic aldehyd have received confirmation in such a practical manner through these experiments that, at the suggestion of the Assistant Commissioner, Dr. Reilly, an inexpensive vaporizer has been devised by Dr. Jaques, chief of the diphtheria corps, for use in the room occupied by a diphtheria patient during the case. This vaporizer consists of a shallow cup supported over an ordinary cheap lamp, such as is made for coal-oil or kerosene. Methyl alcohol is used for the flame. The cup is nearly filled with a solution consisting of about one part of 40 per cent. formalin and five parts of boiling water. The flame is so adjusted as to keep the solution just at the boiling point. The device in use costs less than twenty cents. This is furnished and used in all charity cases of diphtheria treated exclusively by the department, and is believed to be useful in limiting the danger of spread of the contagion to attendants and others, and to effect some degree of continuous disinfection of the room and its contents during the progress of the case.

The Caffery Bill.—The Senate Committee on Public Health and Quarantine at Washington has submitted to that body, through Senator Vest of the committee, a report upon the various plans which have been referred to it for the creation of a Department of Public Health. As might have been anticipated from the constitution of that committee, the report is wholly in the interests of the Marine-Hospital Service, which, with the powerful support of the Treasury Department, has better facilities for persuading Congressmen than can be enjoyed by any interest or interests distant from Washington. The Marine-Hospital Service was established in the Treasury Department for the sole purpose of caring for the sick sailors of the merchant marine. Such hospitals were once necessary because the general hospitals were few and hardly sufficient for the needs of the permanent population in their vicinity; but the seaport cities have now hospital accommodations large enough to receive the ordinary sailors, while those attached to the navy would naturally be still cared for in the hospitals of that service. Under a succession of energetic chiefs the Marine Hospital has acquired functions foreign to its organization, and now demands the oversight of the public health work of the nation, a function not justified by anything in its constitution or experience. If any existing department in Washington could be properly placed in charge of our quarantine work, the navy would seem to be the proper body, for its medical officers have visited all quarters of the globe and are more familiar than any other public servants with the foreign diseases which produce so much disturbance when introduced into this country. The great sanitary need of the country, however, is something of far greater importance than a quarantine against yellow fever or cholera. The disgraceful deficiency of the government at Washington in this regard lies largely in the fact that a few cities and less than five States have done the only creditable public health work of the country in later years. It has been the hope of many that the growing belief in really scientific methods for the prevention of disease might find some encouragement in the halls of Congress; but it now seems probable that the same Senate is willing to hamper the methods of investigation which have given us a means for controlling diphtheria and to enlarge the powers of the Marine-Hospital Service for the sole purpose of creating a quarantine against yellow fever and cholera alone. The larger part of Senator Vest's report, which accompanies Senate Bill No. 2680, is devoted to the discussion of the constitutional right of the United States to protect its inhabitants against a contagious disease introduced into this country from abroad; and, fortunately, the conclusion is reached that the general government has that right, but it hardly seems necessary at this late day to spend much time upon the question of a right to save human life when Congress has more than once authorized more drastic measures for the suppression of diseases among the domestic animals than any now demanded for man's protection. So long as the Senate regards its associate from New Hampshire, Dr. Gallinger as a sufficient representative of the present views on preventive medicine, we are not likely to get any better plan for a public health service than this presented by Senator Vest; but if any of our readers are in a position to do missionary work in instructing any Senator in the beneficent functions of the great sanitary boards of other countries, let such hasten to the task.—Editorial in *Boston Med. and Surg. Journal*, February 10.

Origin of the Fever of 1897.—The committee of the legislature of Mississippi, which went to Ocean Springs, in that State, recently for the purpose of investigating the origin of the yellow fever, with which the Southwest was afflicted last summer and fall, reports that the epidemic did have its origin in that place, but that it was not brought there from the Marine-Hospital Service quarantine, as has been charged, or by Cuban filibusters who fitted out a filibustering expedition there in the early part of last summer, but that it was introduced there from Guatemala by a Mississippi family that had been temporarily staying in that country. The family came to this country on the steamer *Breakwater*, and reached Ocean Springs early in April. None of their baggage was disinfected. Soon after their arrival at Ocean Springs one of their number became ill with fever. Within a few days other cases of fever made their appearance in the vicinity of the first case, and fever of some character prevailed at Ocean Springs all summer, though it was not until September that it was diagnosed as yellow fever. In all the Southern ports strict quarantine goes into effect on May 1. It is apparent, if this report of the committee of the

Mississippi legislature is to be relied upon, that strict quarantine against yellow fever countries ought to go into effect much sooner, because it was in April that the disease was introduced into Ocean Springs. In this connection it is recalled that it was in March that the *Emily B. Souder* is said to have introduced the yellow fever into New Orleans March, 1878, the year of the great epidemic of yellow fever in the Mississippi Valley. If what is said in respect to the origin of the fever last year and 1878 is correct, it is evident that the disease can be introduced into a port in comparatively cool weather, that it may linger there months and finally develop into an epidemic under favorable conditions when the hot weather comes. The conclusion is that all the South Atlantic and Gulf quarantine officers ought to be on the lookout for the fever all the year around, and that the quarantine regulations at all these ports ought to be uniform, and strictly enforced by competent men. —*News*, Savannah, Ga., February 5.

ASSOCIATION NEWS.

Chicago Gynecological Society.—The Chicago Gynecological Society entertained the Trustees of the AMERICAN MEDICAL ASSOCIATION, the evening of February 18, in the Stewart Building. The following program was presented: Exhibition of specimens; exhibition of instruments; report of cases; "The Removal of Fibroid Tumors of the Uterus without Hysterectomy," by Dr. E. E. Montgomery of Philadelphia; "Vaginal Hysterectomy and Igni-Extirpation," by Dr. Joseph Eastman of Indianapolis; "The Rectal Reflexes in relation to Gynecologic Work," by Dr. J. M. Mathews of Louisville; "Uretero-vaginal and Uretero-abdominal Fistulæ," by Dr. A. H. Ferguson.

Collation. The guests of honor were Alonzo Garcelon, M.D.; G. C. Savage, M.D.; I. N. Love, M.D.; E. E. Montgomery, M.D.; J. M. Mathews. M.D.; C. A. L. Reed, M.D.; Joseph Eastman, M.D.; J. T. Priestley, M.D.; Truman W. Miller, M.D.; John B. Hamilton, M.D.

SOCIETY NEWS.

New York State Medical Society.—The Society convened in annual session at Albany January 25. Among the papers of general interest was one by Dr. William Warren Potter of Buffalo, President of the State Medical Examining Board, entitled "Medical Education; the State License to Practice Medicine." Dr. John H. Pryor, also of Buffalo, presented a paper on the duty of the State and county in reference to the treatment and care of consumptives. He advocated the establishment of a colony for consumptives upon State lands in the Adirondack region. "The Hygienic Management of Dairies," and "The Municipal Control of Milk Supply in Cities and Villages, with Report of Health Regulation," were read by Dr. E. F. Brush of Mt. Vernon and Dr. W. H. Heath of Buffalo, respectively. Dr. Heath's paper recommended quarantine in the dairies from without, carefulness in issuing dairy licenses and legislation requiring sanitary conditions in transportation. He also advocated the plan of not allowing small grocers to handle milk, as much disease undoubtedly lodged in the fluid while in those places, since these people neither know how nor are able to properly store the milk. Other papers were read pertaining to the diseases of women by R. J. Wilding of Malone, Herman A. Hayd of Buffalo, Edwin B. Cragin of New York, W. E. Ford of Utica, J. Riddle Goffe of New York. Papers were also read by George M. Edebohls of New York, M. D. Mann of Buffalo and J. E. Walker of Hornellsville, and Dr. P. M. Wise had a paper on "The Past, Present and Prospective Methods of Treatment of Insanity in the State of New York." Other papers were: "A Year's Work in Appendicitis," Herman Mynter of Buffalo; "Lessons from Six Cas of Appendicitis," William B. Jones of Rochester; "Congeni Dislocation of the Shoulders Backward, with a Report Seven Cases and an Operation for its Relief," A. M. Phelps New York; "The Treatment of Rachitic Deformities," Re nald H. Sayre of New York; "The Management of Und scended Testicle in Hernia Operations," William B. DeGarm of New York. The following officers were elected: Presiden John O. Roe of Rochester; vice-president, E. F. Brush of M Vernon; secretary, F. C. Curtis of Albany; treasurer, Char H. Porter of Albany. Drs. Frank Van Fleet of New Yor Arthur G. Root of Albany and Ernest Wende of Buffalo we appointed a legislative committee.

Salt Lake County Medical Society.—At the last annual meeti of the Salt Lake County Medical Society the following office were elected for the ensuing year: Philo E. Jones, presiden George H. Penrose, vice-president; E. I. Thorne, treasure H. S. Scott, secretary. This is the oldest medical society the intermountain region and has a membership of seven The Society's meetings are held the second and fourth Mond evenings of every month.

NECROLOGY.

JOHN CROMYER, M.D., University of Toronto, Canada, 18 died at his home in Buffalo, N. Y., February 11. He was bo December 22, 1825 in Black Rock, a suburb of Cork, Irelan and in 1837 came to this country. In 1859 he removed to Bu falo, where he became widely known as a medical scholar, a debater and the possessor of many attractive qualities. H was a member of the AMERICAN MEDICAL ASSOCIATION, founder and ex-president of the New York State Medical Ass ciation, to the reputation of whose series of Transactions h annually contributed in various ways, and he was besides f many years an honorary member of the Ontario Medic Association.

GEORGE C. BRIGGS, M.D., University of Michigan, A Arbor, 1853, died from cardiac disease while driving to h home in Burlington, Vt., late on February 11. His hor brought his body to his door. In 1876–77 he was professor materia medica in the University of Vermont and in 1873 w representative for the town of Franklin in the Legislatur Besides he was a leading member of the Vermont State Me ical Society and consulting physician of the Mary Fletch Hospital in his residential town.

FREDERICK L. VON SUESSMILCH, M.D., Delavan, Wis., native of Hanover, Germany, died February 10, aged 77 yea He participated as surgeon in the civil war, being attached one of the Wisconsin regiments. The city of Delavan h repeatedly elected him mayor, and he was for many years member of the State Board of Health. He was graduat from the Royal Medical and Surgical College, Dresde Saxony, in 1848.

G. A. WILDER, M.D., one of the oldest physicians of Circ ville, O., died suddenly January 30. Dr. Wilder served for ma years on the Board of Education and was a member of t Pension Examining Board under President Cleveland. H graduated from the Berkshire Medical College, Pittsfie Mass., in 1864.

WILLIAM H. HELM, M.D., University of Pennsylvania, 18 of Sing Sing, N. Y., died February 5.

THOMAS H. ATKINSON, M.D., Jersey City, N. J., February aged 26 years.——M. E. Connolly, M.D., Dubuque, Io February 2, aged 54 years.——Christian W. Dellenbaug M.D., Cleveland, Ohio, February 3, aged 68 years.——Ira Lyons, M.D., Huntington, Ind., aged 76 years.——T. McDonald, M.D., New Carlisle, Ind., February 7, aged years.

DEATHS IN THE MEDICAL PROFESSION ABROAD.—Dr. Filippo Lussana, Emeritus Professor of Physiology in the Universities of Parma and Padua.——Dr. G. Alexianu, Professor of Medical Pathology at Bucharest.——Count Motta Maia, Professor of Anatomy and Operative Surgery in the Medical Faculty of Rio de Janeiro.——Dr. Francesco Bini, for many years Professor of Psychological Medicine at Florence, aged 84 years.——Vallin, Professor of Clinical Surgery at Lille, France. Translator of Greig Smith's large work on Abdominal Surgery and author of numerous articles in this line. Physician to the pilgrims at Lourdes. Death in early prime from small anthrax on the wrist, contracted professionally.——Professor Zacharjin, Moscow, the famous Russian who devoted all his earnings as professor to founding scholarships for poor students. Although frequently summoned to the nobility he retained his simple, brusque manners to the last. When the Czar Alexandria III. was on his death bed, Zacharjin scandalized the Court by his dressing gown and farmer's boots which he wore everywhere. He gave his services freely to the poor but the rich had to pay high for them; his fee for consultation in certain families was 10,000 roubles. In one case he received 25,000 roubles for a single visit to the manufacturer Karetnikow, who also placed a special train at his disposal.

MISCELLANY.

The Ninth International Congress of Hygiene and Demography will convene at Madrid, April 10 to 17, with an exhibition of articles of interest in these lines. For particulars address Dr. Amelio Gimeno, Ministerium de la Gobernacion, Madrid, Spain.

Correction.—In the JOURNAL of January 22, page 202, column one, seventeenth line from the bottom of the page, "rather than how" should read "rather than low"; also line thirty-two from top, "optical instruments" instead of "optic instruments."

A Cordial Spirit.—Convalescent (dictating): Please say to Mrs. Jackson that I thank her, not alone for the brandy peaches that she so kindly sent me, but for the spirit in which they were sent.

Bismuth Capsules; a New Application of the Roentgen Ray to the diagnosis of gastro-intestinal affections. An ordinary gelatin capsule (2.25 by 1.25 cm.) is filled with a non-toxic substance, opaque to the rays (metallic bismuth) and swallowed by the patient. Its varied course throughout the alimentary canal can then be followed with the fluorescent screen or by radiographs. It casts a clear shadow and the importance of the information thus derived in various affections of the stomach and bowels is evident, and also in the study of the effect of various medicaments upon the peristalsis, etc., of the gastro-intestinal tract. The capsule is arrested and lingers for days where there is stenosis of the pylorus or intestines. The interesting communication on the subject in the *Deu. Med. Woch.* of January 13, is from the eminent authorities, I. Boas and M. Levy Dorn of Berlin, who have tested the capsule on fourteen persons and regard it as a valuable contribution to the study of these viscera from many points of view. The capsule is coated with celluloid to keep it from dissolving and is stained a bright color to enable it to be readily detected in the feces. Powerful rays and a high tension current are needed, and it is well to note whether the shadow is more distinct from the front or rear. With much obesity, they found it impossible to trace the capsule lower than the stomach. In the majority of cases it was found either in the greater curvature, near Bauhin's valve or in the cecum. They never happened to witness its passage through the pylorus. In several cases of slight gastric disturbance the capsule was found after twenty-four hours, invariably in the cecum; less time was required for it to pass through the small intestine to the cecum than for its passage through the pylorus. They are now searching for some substance to coat the capsule that will allow it to be dissolved at will by a chemic agent. They conclude by stating that henceforth a neoplasm or constriction requiring operation can be located with precision by having the patient swallow a capsule as a preliminary to the operation.

Embalming Crushed Members; "No More Traumatic Amputations."—Several of our exchanges have recently been extolling the favorable results attained with Reclus' embalming process (*Rev. de Chir.*, January, 1897), in the traumatisms in industrial establishments, etc., as it saves the maximum of tissue and ensures the best stumps or an available member. Even from Chile comes the same cry of the increasing numbers of these accidents: "scarcely a day passes here in Santiago in which our *sui generis* surburban line does not crush the ankle or arm of some unfortunate," and the conservative embalming process is frequently practiced with most gratifying success (*Revista Medica*, October). The *Journ. d. Sc. Méd. de Lille*, December 25, describes the case of a woman eight and a half months pregnant, whose hand had been crushed in some machinery. For several days the hand was plunged for hours at a time in phenicated and disinfected hot water. Then a few whiffs of chloroform were given her and the toilet of the hand accomplished with quantities of very hot water and with solutions of sublimate and potassium permanganate, removing the loose projecting fragments of bone. Small squares of soft gauze impregnated with a poly-antiseptic salve consisting of all the substances currently used in surgery (less of those easily absorbed: sublimate, phenic acid and iodoform, and more of the others, boric acid, salol, antipyrin), were carefully fitted into every crevice, covering the hand entirely, completing the dressing with a thick layer of cotton and a tight, compressing bandage outside of all, to secure anastomosis of the vessels. The patient then left for a maternity where she underwent a normal confinement. The embalming dressings are never touched for three weeks, leaving to nature the task of separating the dead from the living tissues. When they were removed in this case, after twenty-six days, under a thick layer of a fetid, chocolate-colored fluid, the wounded surface was found covered with healthy granulations, with the necrosed parts entirely eliminated. An autoplastic operation was performed a week later, which healed rapidly.

A New Conception of Artificial Immunity.—Ehrlich has suggested that possibly intoxication by a special toxin may be due to the combination of the toxin with certain cells of the organism. According to this idea the antitoxins are nothing else than the constituent parts of normal cells constantly eliminated, constantly regenerated, in the course of the immunizing process, which neutralize the toxin circulating in the blood, thus protecting the organism against its injurious action. Wassermann and Takaki have been experimenting in this line and they find that they can neutralize a fatal dose of tetanus toxin by injecting healthy brain matter. Their premises are that if the antitoxin of tetanus is derived from the cells of the central nervous system as we have reason to suppose, it should exist normally in the brain and medulla. We can consequently confer immunity by introducing into the system nerve substance from these organs taken from healthy animals. These suppositions were confirmed by experience. Fragments of the brain and medulla of healthy animals, emulsioned in physiologic salt solution, were mixed with a fatal dose of tetanus toxin and the mixture injected into white mice, which are particularly susceptible to tetanus. No effects from the toxin were observed. A preventive injection of the brain emulsion several hours before the tetanus toxin was administered, also saved the animal from its effects. This power is more marked

in brain matter than in the medulla. It is inherent in the cells themselves, as the centrifugalized fluid is without it, and also the serous fluid of the cerebral ventricles, and emulsions of other organs, spleen, kidney, spinal cord, etc. These facts, with the results of clinical observation, seem to show that the tetanus toxin has a special affinity for certain groups of cells of the nerve centers. This affinity exists not only between the toxin and the living nerve substance, but for nerve substance taken from the brain and medulla of dead animals. When an emulsion of these organs is injected with or before the tetanic toxin, the latter combines with the nerve substance circulating in the blood and is thus neutralized. Wassermann's experiments suggest a new style of opotherapy: to determine for each bacterial toxin the special organs for which it has an affinity, and protect the organism by injecting emulsions of this organ derived from sound animals.—*Berl. klin. Woch.*, January 3.

Tubal Pregnancy and Vaginal Celiotomy.—Dürhssen contributes a study of this subject to the *Arch. f. Gynek.*, Vol. xiv, No. 2, describing his technique in full, advocating the vaginal route, as the operation is less severe, without shock, or consecutive necrosis or suppuration, and the patient recovers rapidly. He has operated on fourteen in this way, all anemic. Eleven recovered by the twelfth day; one died soon after leaving the hospital; one had such hemorrhage that the operation was supplemented with vaginal hysterectomy. In another there was a secondary suppurating hematocele. In his nineteen abdominal operations, there were two deaths, two secondary suppurating hematoceles, and one secondary consecutive to the operation. He proceeds the same whether the tube is or is not ruptured: 1. He opens into the abdominal cavity through the anterior cul de sac. 2. Draws down the fundus of the uterus into the vagina with Museux forceps, and then the diseased tube. The peritoneal adherences are usually easily detached. 3. Ligature in stages and section of the adnexa with the thermocautery. 4. He replaces the uterus in the abdominal cavity and closes, separately, the peritoneum and the vagina. If the uterus is retroflexed, he performs vaginofixation. As far as possible, no drainage. Thus performed, vaginal celiotomy does not interfere with future normal pregnancies. He considers that every tubal pregnancy in the early stages should be extirpated as soon as the diagnosis is established. Anemia is not a counterindication, but he prepares anemic patients by injections of artificial serum immediately before operating. He ascribes the etiology to peritoneal adherences consecutive to perisalpingitis, modifying the shape and direction of the tube, or to catarrhal inflammation of the tubal mucosa, generally of gonococcic origin, which arrests the peristaltic movements of the tube, with the loss of the cilia of the cells. The passage of the fecundated ovum toward the uterus is thus hindered, while the same factors favor the penetration of the spermatozoon. He also admits the possibility of a puerperal atrophy in nursing mothers which would favor the development of tubal pregnancy.—*Presse Méd.*, December 25.

Physical Treatment for Obesity.—W. Kinternitz reviews the disadvantages of the various antifat methods in vogue in an address reported in the *Therap. Woch.*, of December 12. He states that they are all more or less weakening, underfeeding, with occasional after-results such as disturbed digestion, neurasthenia, etc., while the use of the thyroid tablets has been followed in numerous instances by serious disturbances of the circulation and nervous system, and even diabetes. He prepares the patient by a preliminary course of training of the vessels all over the body, by mechanic and thermic stimulation. He accomplishes this by reducing the temperature by a cold bath lasting fifteen minutes, more or less, followed by the "reaction promenade," which by muscular exertion raises the temperature again to normal, but does not produce the excessive heat it would if it had not been preceded by the cold bath. He also uses massage and dry packs in certain cases, individualizing in all, and repeating the process of withdrawing the heat of the body and the reaction warmth production two or three times in the twenty-four hours. A valuable adjuvant is the sweat cure, which strengthens the patient while reducing his obesity and leaves him with better nutrition in every respect. He reports astonishing success with the new "electric light baths," which do not raise the temperature nor accelerate the pulse, while the amount of sweat excreted is enormous. C. Schmidt has shown that the loss of an atom of alkali has a constant equivalent proportion to the albumin, so that for each single atom of alkali salts withdrawn in the respiration, nine atoms of albumin are restored to the circulation. As the perspiration lowers the amount of water and salts in the blood, angiopetal currents arise which draw the albumin out of the tissues into the blood; the nutrition of the muscular tissues is improved, while the organic albumin is protected, and fat alone consumed in the metabolism, and all the functions are more thoroughly performed. He reports hundreds of cases thus treated with a loss of forty-five pounds in weight in a few weeks, without interrupting or disturbing any functions and with increased instead of diminished energies. The process is purely physical. The aim is merely to increase the physiologic consumption of fat. The non-interference with the diet is an important advantage of this method in the frequent cases of bons vivants. The patient can be treated at home and the treatment resumed as necessary to maintain the benefits secured.

Washington.

HEALTH OF THE DISTRICT.—The report of health officer Woodward ended January 29, shows the total number of deaths to have been 100. Of which number 61 were white and 39 colored. Among the principal causes of death were diseases of the nervous system, 17; circulatory, 5; respiratory, 12; urinary, 7. There were 4 fatal cases of diphtheria, 1 of whooping-cough, 1 of typhoid fever and 3 of la grippe. There are 46 cases of diphtheria under treatment and 48 cases of scarlet fever.

MEDICAL ASSOCIATION. — The standing committee of the Medical Association of the District of Columbia held a meeting on the fourth instant to determine which hospitals have agreed, and which have not, to enforce the recent rules of the Association regulating the admission and treatment of patients applying for free treatment.

WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—The two hundred and seventy-fifth meeting of the society was held at the residence of Dr. T. S. Smith, the president. Dr. W. T. Carr read the essay of the evening entitled, "Remarks on the Technique of Symphysiotomy with Report of two Cases."

Cincinnati.

THE MORTALITY REPORT for the week shows: Stillbirths 5, zymotic diseases 16, phthisis 16, other constitutional 6, local 66, developmental 12, violence, 6; total, from all causes, 122; between 1 and 5 years 18; annual rate per 1000, 15.66; preceding week, 107; corresponding week 1897, 118; 1896, 134; 1895, 115.

THE GERMAN METHODIST DEACONESS' HOME has decided to erect a general hospital.

THE CINCINNATI HOSPITAL is considering the advisability of erecting an isolation department for the care of patients suffering from infectious and contagious diseases. A bill has been drafted and will shortly be presented to the legislature asking for an appropriation of $160,000. It is the intention to have the internes and nurses who have charge of this department also isolated from the general hospital proper.

THE NORTHEASTERN MEDICAL ASSOCIATION of Kentucky held its annual meeting in Cincinnati last week. Dr. A. S. Robertson of Sherburne was re-elected president and Dr. Adamson of Maysville secretary. Dr. C. A. L. Reed invited the association to the Cincinnati Hospital, where he performed several operations

in the amphitheater, among which might be mentioned three curettements of the uterus, one Tait's operation for lacerated perineum, one vaginal hysterectomy and one retroflexion of the uterus by abdominal section with fixation of the uterus by his own method.

HEALTH OFFICER WITHROW has presented his annual report. Dr. Withrow has inaugurated a number of innovations in the department since he entered last April. The most important being the establishment of a completely equipped chemic and bacteriologic laboratory and the anti-spitting crusade. The death rate is given as 13.7, which is the lowest ever reported for Cincinnati.

DR. EDMUND L. GROS of Paris visited Cincinnati last week en route to San Francisco. Dr. Gros was at one time assistant under Professor Charcot of Paris and he has done much original work along the line of suggestive therapeutics, scientific hypnotism and ophthalmology, his last work being a thesis on "Hydrophthalmia," which was recognized by the Faculty of Paris with a laureateship bestowed upon Dr. Gros.

SMALLPOX.—Recent reports show that smallpox continues to spread in Tennessee, and it is estimated that there are 1000 cases in Northern Georgia, Tennessee, North Carolina, Southern Kentucky and Virginia. There are several new cases in Bartow County, Ga., the total number there being fully 250. The disease has appeared at Troy, Anniston, and Hartzell, Ala., and is creating considerable alarm in mining districts of East Tennessee. Dr. Allbright of the State Health Board announced that a wholesale vaccination is the only thing that can prevent a general spread of the disease in Tennessee and in all the districts affected. Compulsory vaccination has been ordered, while places where the disease has not appeared are taking vigorous measures to prevent infection.

Louisville.

CORPSES.—At the instance of the General Baggage Agents' Association of this city, a joint meeting was held this week of the Executive Committee of the State Board of Health, the City Health Officer, a representative of the Baggage Agents' Association and a number of undertakers of the city. The object of the meeting was to consider certain recommendations of Health Officer Allen in regard to the transportation of corpses. There are a number of provisions in the laws of the various States bearing on the manner of embalming, which cause considerable annoyance to baggage agents. The agents request a perfected system of embalming by competent men, and an effort to have a uniform law adopted in order to facilitate the work of transportation of dead bodies. Rules similar to those adopted by the Illinois State Board of Health will be urged and perhaps adopted by the Kentucky State Board of Health.

EMBALMERS.—In connection with the foregoing paragraph, the Laufles House Bill, which was reported favorably by the committee on public health, was defeated by a vote of 54 to 19. This bill provides for a license for embalmers before they can practice.

DENTISTS.—House Bill 93, which was also reported favorably by the Committee on Public Health, was defeated by a vote of 43 to 27. This bill was strongly urged for passage by the State Dental Association. It provided for re-enacting the law chartering the Kentucky State Dental Association, and increased their powers in issuing licenses to practice dentistry. It also removed the headquarters from Louisville to Hopkinsville. It is to be regretted that this bill failed in its passage. This was subsequently called up by Representative Vanzant, who moved a reconsideration. The motion carried and after a long discussion the bill was finally carried by a vote of 54 to 34.

PULLIAM.—Dr. R. D. Pulliam of Leitchfield, Ky., died February 2, after an illness of less than two weeks. He was 63 years old and was one of the leading physicians of the county. He leaves a widow and eight children.

WILEY.—The Senate has confirmed the appointment of Dr. E. M. Wiley as Superintendent of the Central Kentucky Asylum for the Insane by a vote of 18 to 13. Strong opposition was brought to bear against the confirmation on purely political grounds.

OSTEOPATHY.—A bill has been introduced into the Senate by Mr. Goebel of Kenton which, if it becomes a law, will enable the State Board of Health to effectually rid the State of these quacks. It provides that "any person is prevented from practicing medicine or treating any sick person by any method whatsoever without first complying with the act of April 10, 1893, to protect citizens from empiricism."

FREE MEDICAL SCHOOL.—Among the bills advanced in the House is that one introduced by Mr. Lackey of Trigg County, providing for a State Medical College in connection with the Agricultural and Mechanical College at Lexington.

Denver.

COLORADO MEDICAL LIBRARY ASSOCIATION.—The fifth annual meeting of this association was held Jan. 17, 1898, Pres. T. H. Hawkins in the chair. Dr. Henry Sewall, the secretary, reported on the condition of the library. On Jan. 1, 1897, books, the property of the Denver Public Library, numbered 1559, and on Jan. 1, 1898, 1640; books, the property of the Colorado Medical Library Association, Jan. 1, 1897, 398; Jan. 1, 1898, 477; bound medical journals, Jan. 1, 1897, 1332; Jan. 1, 1898, 1910; Proceedings, Transactions. etc., Jan. 1, 1897, 1200; Jan. 1, 1898, 1320. It was voted to reduce the annual membership fee from $5 to $3. The secretary reported that some four hundred volumes of medical journals were awaiting binding, but that there was no money for that purpose. On motion of Dr. Fisk, a subscription was started to raise funds to bind these and $120 raised among the members. Drs. Munn and Sewall were appointed a committee to solicit subscriptions to complete the amount of $200. Officers for the ensuing year were elected as follows: President, William P. Munn; treasurer, Laura Liebhardt; secretary, Henry Sewall; librarian, John Parsons.

THE DENVER AND ARAPAHOE MEDICAL SOCIETY.—At the regular meeting of the society, January 25, Dr. Fisk brought forward a personal letter from Dr. Welch of Baltimore, asking the society to take some action upon governmental restriction of vivisection. The following resolutions were unanimously adopted:

Resolved, That it is the spirit of the medical profession of Denver that a strong protest be made against the passage of Senate Bill 1063, Calendar No. 136, entitled "A Bill for Further Prevention of Cruelty to Animals in the District of Columbia," and

Resolved, further that the president and secretary of the society be directed to communicate at once with our honorable Senators, urging them to do all in their power to defeat a bill that will do untold injury to the advancement of medical science and to the prevention of disease among mankind and animals.

Dr. Waxham read a paper, "Twenty-nine Consecutive Cases of Intubation with Twenty-seven Recoveries," and paid a tribute to the late Dr. Joseph O'Dwyer. All were treated with antitoxin. Of this number three were under 2 years of age with two recoveries, or 66⅔ per cent. Eight were 3 years old with eight recoveries, or 100 per cent. Six were 3 years old with six recoveries, or 100 per cent. Six were four years old with five recoveries, or 83⅓ per cent. Two were 5 years old with two recoveries, or 100 per cent., and four were 6 years old with four recoveries, or 100 per cent. Total, twenty-nine cases with twenty-seven recoveries, or 93.1 per cent. A mortality of only 6.9 per cent. This low mortality was attributed to the use of antitoxin. Dr. Levy also paid a tribute to Dr. O'Dwyer. He thought Dr. Waxham's conclusions correct. He thought that reports from those adverse to antitoxin were due to the fact that antitoxin was not administered soon enough in their cases. "Antitoxin is comparatively harmless

and it may be administered in simple anginas, and even asthma has been benefited by its administration. A diagnosis by bacteriologic examination is not necessary in every case. Here in Denver our health department has been infallible in every one of my cases." Dr. Munn thought that Dr. O'Dwyer had contributed the best pediatric idea of the century in his intubation study. He reviewed some of the statistics afforded by the city of Denver. In 1893 there were reported 178 cases of diphtheria with a mortality of 20 per cent.; nineteen of these cases were cases of laryngeal involvement and sixteen died. Early intubation and early antitoxin reduced this to 9 and 10 per cent. for the years 1895 and 1896. In 1895, when antitoxin was introduced into Denver, 123 cases were treated by antitoxin and 9 died, while 125 cases were treated without antitoxin and 31 died. He spoke of Dr. Crouch's diagnostic stain which contributed so much to the work of the health department. "Protest Against Dermatitis Originating from Exposure to the Roentgen Ray," was the title of Dr. G. H. Stover's paper. Dr. Rogers thought Dr. Stover was too positive in his statement that the X ray from a static machine would not burn. He reviewed the history of the girl who was burned by the X ray in New York, after an exposure of eight minutes. Dr. Freeman stated that some recent French writers had collected a record of fifty cases of injury from the X ray. Dr. Rogers also spoke of a new apparatus for localizing foreign objects in the body. The description appears in a recent number of the *British Medical Journal*.

A HOSPITAL IN BOULDER, COLO.—When the supreme court of Colorado handed down a decision last summer, denying the constitutional right of the University of Colorado to conduct a branch of the medical department in Denver, it became necessary to abandon the last two years of the medical course of the University. It was impracticable to attempt to conduct the two final years of the college without clinical work. A meeting of the citizens was held and it was decided to establish a hospital. The city council appropriated the sum of $3000, and the board of commissioners have assured an appropriation of $5000. It is expected that the building will be ready to receive patients by next fall.

Societies.

The following meetings are noted:

Connecticut.—Bridgeport Medical Society, February 1.

Illinois.—Kankakee County Medical Society, Kankakee, February 3.

Kansas.—Montgomery County Medical Society, Coffeyville, January 28.

Kentucky.—Floyd County Medical Society, Louisville, February 3.

Massachusetts.—Fall River Medical Society, February 2.

Michigan.—Saginaw County Medical Society, Saginaw, January 28.

Minnesota.—Minneapolis Academy of Medicine, February 2; Ramsey County Medical Society, St. Paul, January 31.

Nebraska.—York County Medical Society, York, February 1.

New York.—Niagara County Medical Society, Lockport, January 27.

Ohio.—Lucas County Medical Society, Toledo, January 28.

Pennsylvania.—Harrisburg Academy of Medicine, January 28; Oil City Medical Club, January 28; Luzerne County Medical Society, Wilkesbarre, February 2.

West Virginia.—Mason County Medical Association, Pt. Pleasant, February 1.

CHANGE OF ADDRESS.

Bond, S. S., from 813 7th St. to 818 N. J. Ave. N. W., Washington, D. C.
Cox, J. E., from Hooper, Colo., to 218 So. Broadway, Los Angeles, Cal.
Reed, B., from 4726 Kingsessing Ave. to 1831 Chestnut St., Philadelphia, Pa.

LETTERS RECEIVED.

Bernhardi, C., Rock Island, Ill.; Ball, M. V., Warren, Pa.; Brinkerhoff, W. C., Chicago, Ill.; Banister, J. M., Fort Leavenworth, Kan; Bloom, Homer C., Philadelphia, Pa.; Brothers, Samuel F., New York, N. Y.; Bradley, C. H., E. Las Vegas, N. M.; Bouffler, A. I., Chicago, Ill.

Colvin, D., Clyde, N. Y.; Chesterman & Streeter, Philadelphia, Pa.; Caldwell, W. S.; Paris, France; Crowe, John W., Washington, D. C.; Cokenower, J. W., Des Moines, Iowa.

Denison, Charles, Denver, Colo.; Deputy Minister of Justice, Ottawa, Canada; Dercum, F. X., Philadelphia, Pa.; Doliber-Goodale Co., Boston, Mass.; Day-Gage, Mary, Kingston, N. Y.

Engman, M. F., St. Louis, Mo.; Elliott, H. G., New York, N. Y.

Fairchild Bros. & Foster, New York, N. Y.

Hektoen, L., Chicago, Ill.; Hughes, Chas. H., St. Louis, Mo.; Hamilton, R. G., Ochevedan, Iowa; Hessler, Robert, Indianapolis, Ind.; Hessert, William, Chicago, Ill.

Imperial Granum Co., New Haven, Conn.

Jackson, James H., Dansville, N. Y.; Jelks, James T., Hot Springs, Ark.

Kendell, J., Covington, Ohio; Kenyon News and Postal Subscription Co., The, Chicago, Ill.; Koechl, Victor & Co., New York, N. Y.; Kress & Owen Company, New York, N. Y.

Lusk, Z. J., Warsaw, N. Y.; Lichty, D., Rockford, Ill.; Lewis, Le Roy, Auburn, N. Y.; Lloyd, James H., Philadelphia, Pa.; Linley, Hubbard, Atchinson, Kan.

Merton, J. M., Calumet, Mich.; McIntosh Battery and Optical Co., Chicago, Ill.; Mullin, J. M., Milwaukee, Wis.; Mann, Wm. B., Evanston, Ill.; Moffett, W. E., Bible Grove, Mo.; Montgomery, Liston H., Chicago, Ill.; Milliken, Jno. T. & Co., St. Louis, Mo.; Moore, Dwight S., Jamestown, N. D; McBride, R. E., Houma, La.; Mercer, J. A., Chilton, Texas; Merck & Co., New York, N. Y.

Norris, A. L., Cambridge, Mass.

Polk, R. L. & Co., Detroit, Mich., (2); Pantagraph Printing and Stationery Co., Bloomington, Ill.; Pilling, George P. & Son, Philadelphia, Pa.; Phenique Chemical Co., St. Louis, Mo., (2).

Richards, R. M., Detroit, Mich.; Reed, Boardman, Philadelphia, Pa.; Reber, Wendell, Philadelphia, Pa.; Reed, C. A. L., Cincinnati, Ohio.

Sherer, J. W., Kansas City, Mo.; Stokes, Wm. R., Baltimore, Md.; Saunders, W. B., Philadelphia, Pa.; Sternberg, George M., Washington, D. C., (2); Scudder Bros. Co., The, Cincinnati, Ohio.

Talbot, E. S., Chicago, Ill.

Universal Medical Insignia Mfg. Co., Indianapolis, Ind.

Wellner, H., Concord, N. H.; Watson, W. S., Fishkill-on-Hudson, N. Y.; Woman's Medical College, New York, N. Y.; Wardner, Horace, La Porte, Ind.; Wingate, U. O. B. (2).

Young, F., Rural Dale, Ohio.

PAMPHLETS RECEIVED.

Annual Report of the Providence Retreat, Buffalo, N. Y., for 1898. Paper. Illustrated, pp. 24.

Annual Report of Second Hospital for Insane, Sykesville, Md. Paper, Illustrated, pp. 28.

Annual Report of State Board of Medical Examiners of New Jersey. Paper, pp. 30. Trenton. 1897.

Appendicitis Complicating Ovarian Cyst and Simulating Torsion of the Pedicle; Intestinal Resection with End-to-end Anastomosis by Means of the Murphy Button, with Recovery; Tonic and Spasmodic Intestinal Contractions with Report of Cases. By X. O. Werder, Pittsburg, Pa. Reprints.

Child Fetiches; King Arthur's Medicine; Law of Refraction, Change Following Increase or Decrease of Body Weight; Retinitis Pigmentosa without the Characteristic Pigmentation; Some Relations of Author, Publisher, Editor and Profession. By George M. Gould, Philadelphia. Reprints.

Cough Due to Lesions of the Nose and Throat. By. W. S. Anderson, Detroit, Mich. Reprinted from Medical News.

Diphtheria in which Antitoxic Serum was Used, with Some Observations as to Its Employment. By Wray Grayson, Washington, Pa. Reprinted from Penn. Med. Jour.

Parotiditis Following Celiotomy; Treatment of Uterine Prolapse, with Illustrative Cases. By Wilmer Krusen, Philadelphia. Reprinted from Am. Gyn. and Obstet. Jour.

Physiologic and Pathologic Relations Between the Nose and the Sexual Apparatus of Man. By John N. Mackenzie, Baltimore. Reprinted from Johns Hopkins Hosp. Bulletin.

Playfair School of Midwifery, Chicago. Announcement for 1898.

Refrigeration as a Means of Preservation of Bodies for Use in the Dissecting Room. By E. W. Holmes, Philadelphia. Reprinted from Internat. Med. Mag.

Trade Pamphlets.

A Modern Pathologic and Therapeutic Study of Rheumatism, Gout, Rheumatoid Arthritis and Allied Affections. By E. L. Gros. E. Fougera & Co., New York.

Aseptolin-Edson: A Formulated Treatment for Tuberculosis, etc. Asepta Chemical Co., New York.

Minerva Medica. P. Blakiston, Son & Co., Philadelphia.

Purdy Electric Centrifuge. Williams, Brown & Earle, Philadelphia.

THE PUBLIC SERVICES.

Army Changes. Official List of Changes in the Stations and duties of officers serving in the Medical Department, U. S. Army, from February 5 to 11, 1898.

Capt. Jefferson D. Poindexter, Asst. Surgeon, will report in person to the president of the Army retiring board convened at the Army Building, New York City, at such time as he may designate, for examination by the board. By direction of the President.

Major Louis S. Tesson, Surgeon (Ft. Ethan Allen, Vt.), is granted leave of absence for six months on surgeon's certificate of disability, with permission to go beyond sea, to take effect on or about Feb. 20, 1898.

Capt. William L. Kneedler, Asst. Surgeon, is relieved from duty at San Diego Bks., Cal., and ordered to report in person to the superintendent of the U. S. Military Academy, West Point, N. Y., for duty at that post.

Capt. Charles F. Mason, Asst. Surgeon, is relieved from duty at West Point, N. Y., to take effect upon the expiration of the leave of absence granted him, and ordered to Ft. Logan, Colo.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending February 12, 1898.

P. A. Surgeon L. H. Stone, retired, February 10.